

HIFI CRITIC

AUDIO REVIEW MAGAZINE
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REVIEWED THIS ISSUE: THORENS TD309, FOCAL UTOPIA SCALA V2, BULLY SOUND BSC60s/BSC100m, MARTIN-LOGAN MOTION 15, VOXATIV Pi, VAC PHI 200, KEF LS50, ASTELL&KERN AK100, Q ACOUSTICS CONCEPT 20, HEED OBELISK DT+DA, PARASOUND Zdac, TRACK AUDIO SPEAKER STANDS, CEC WELLFLOAT PLATFORM, KONDO KSL-LPzD, HIGH END NOVUM PMR MK2, LEADINGEDGE PLATFORM, PSB M4U-1. MAINS CABLES: ISOTEK EVO 3 PREMIER, DELTEC POWER INSLINK, CHORD SARUM, NAIM POWERLINE, MCRU ULTIMATE RHODIUM, TRANSPARENT CABLE: XLMM2



HIGH END 2013

British and German journalists report from the specialist hi-fi event of the year – the High End Society show in Munich

LISTENING TO DSD

SACD's DSD hi-res format is coming back, this time in a disc-less form that can be played straight from your PC. Andrew Harrison reports.

THE NEW SCALA V2

Focal has just upgraded its most popular Utopia III model. Martin Colloms gets to try it out

A SLICE OF PI

Paul Messenger assesses the Voxativ Pi, the company's prettiest, smallest and least costly speaker to date

VALVES OR TUBES?

Rafael Todes and Martin Colloms try out the Valve Amplification Company's PHI 200, a high end US valve amplifier, in stereo and monoblock form

BABY THOROUGHbred

Paul Messenger gets his hands on KEF's LS50. Inspired by the LS3/5a, this pretty little 'Son of Blade' is very sharply priced

KETTLING TODAY

Martin Colloms assesses a batch of mains cables, from Isotek, Deltec, The Chord Company, Naim Audio, Mains Cables R Us and Transparent

MUSIC & MUCH MORE



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One of the reasons for starting *HIFICRITIC* was simply that Martin Colloms and I were fed up with reading unremittingly sycophantic equipment reviews in much of the hi-fi press. Had all hi-fi equipment suddenly become universally excellent, or had the standards of criticism dropped? Or was there another explanation?

Seven years down the road I think I might be getting closer to the answer, but it's by no means a simple one. In fact all three factors seem to be involved, and probably more besides.

Does all today's hi-fi equipment achieve impeccable standards? It's certainly true that many of the components we review end up with 'Recommended' flags, but maybe one shouldn't attempt to sum up a product in a single word. I'd far rather subscribers read the review as a whole before deciding whether they're interested in the component in question.

Furthermore, I don't think the best hi-fi has actually improved by very much over the years. I reckon I could put together a system using 40 year old components that can comfortably rival a system available today of an equivalent (inflation adjusted) price.

Again in my opinion, I feel that hi-fi itself has been undermined by the indifferent quality of today's music and recording quality, and the widespread adoption of MP3 downloading. Those factors alone might well have helped undermine serious criticism.

However, I do believe that the overall average performance of hi-fi components has slowly but surely got quite a bit better, and that there aren't all that many 'lemons' around today.

People tell me that a main reason for using solid state amplifiers is simply that they're perceived as more reliable and consistent. While I have some sympathy with that view, I reckon hi-fi and music ought to be about emotion, not practicality, and there's no denying that a good valve amp can sound wonderfully superior.

Have the reviewers become less critical? Possibly. But other factors have also come into the frame. As the UK hi-fi industry has shrunk, so has the number of distributors, and those remaining have become rather more cautious about who reviews their products.

One problem faced by *HIFICRITIC* is that we do try to review products fairly but critically. However, if a distributor doesn't agree with something one of our reviewers has said, it's very likely that the reviewer in question (or even the magazine as a whole) simply won't receive any more review products.

One thing is certain: hi-fi equipment has become much more reliable over the years, which has got to be good news for everybody. Indeed, the reliability of technology as a whole has steadily improved. Back when a mobile phone was the size of a brick, I'd automatically take one along with me on a journey just in case the car broke down, which in those days it did, quite often. Tempting fate, I haven't suffered a breakdown in twenty years, and if I were looking to replace my car today, I probably wouldn't care much which company made it.

Paul Messenger
Editor

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The New Scala

FOCAL HAS JUST UPGRADED ITS MOST POPULAR UTOPIA III MODEL.
MARTIN COLLOMS GETS TO TRY OUT THE SCALA V2

Unlike many makers of ‘high end’ loudspeakers, Focal started out by designing and making drive units, which were notably successful on the upmarket specialist in-car scene and amongst those creating upmarket speaker systems. From its earliest days at the end of the 1970s, Focal has expanded into every possible loudspeaker sector and grown into France’s leading loudspeaker specialist, including five full ranges of domestic hi-fi models. These cover most of the price bands, and culminating in the genuinely high end *Utopia* series, which are now in their third generation.

While Focal would naturally not wish to disturb the equilibrium of existing *Scala Utopia* owners, the existence of progressive and incremental improvements during several years of production cannot be denied, and other subtle adjustments have inevitably suggested themselves. When taken together, these have led inexorably to the new *Scala Utopia V2* (to quote the full name).

This £19,000 *Scala* is the smallest and least costly of four current *Utopia* floorstanders, sitting a little below the middle of the *Utopia III* range. (*It’s actually the natural successor to the 1998 Mezzo Utopia and 2003 Alto Utopia models, both of which were highly regarded by the Editor – Ed.*) Although my findings were embargoed until after the Munich High End Show launch (May 9th 2013), our *Scalas* actually arrived in mid April, and were finished in a handsome Carrara White lacquer (Carrara being an Italian city close to the marble mines). Other piano gloss colours include Black, Imperial Red, and ‘Hot Chocolate’; other custom finishes may be ordered on request.

These *Utopias* have a distinctive appearance which will not necessarily be acceptable to all, and as the models get larger, they become more distinctive, more articulated and more imposing, representing strong industrial design statements rather than the slab-sided veneered cabinetwork of many competitors. Sound engineering design issues lie behind the split enclosure sections, which are far more than a designer’s affectation, since they help achieve optimal alignment for the driver axes in respect to the listener. During review their appearance grew progressively on this reviewer and many visitors.

The V2 Improvements

Distortion resulting from bass drivers is an often neglected factor, designers frequently overlooking the fact that distortion from this source does in fact lie under the midrange and cannot be suppressed by the low pass crossover to the bass because the problem occurs after the music signal has passed through the crossover. It may therefore mask and colour the lower midrange, even though some masking from the midrange does reduce the audibility of the bass distortion itself.

Small production deviations in the outer suspension profile of the *Scala*’s 280mm (11in) bass driver had subtly altered the build height of the driver motor, and hence the centration of the coil in the gap and therefore its linearity under higher power. Quality control systems had indicated some scope for improvement.

Upgrading that outer suspension provided an opportunity to revise the voice coil build, significantly increasing the symmetry and extent of the linear excursion flux coupling, with a useful reduction in distortion, and with more control *via* a significant reduction in compliance. In addition the bass was beneficially re-tuned upwards by 30%, matching the increase in suspension stiffness and moving the system resonance up to 35Hz, thereby delivering rather greater power handling at the practical loudness limit. The consequent distortion reduction is not trivial. At a tolerable -10% magnetic flux loss, the linear excursion has now been increased to 14mm peak-to-peak, together with more symmetrical suspension control and consequently reduced distortion. Revised voice-coil venting has also improved large signal behaviour, and reinforced coupling between coil and cone has improved dynamics. Some minor enclosure build details have been addressed and following these revisions, the system then benefited from minor response rebalancing *via* small crossover changes.

During a factory visit in early April, I was able to compare the original *Scala* and the newly revised V2 version back-to-back. The new bass tuning and driver build was evident in notably punchier, crisper and more powerful upper bass, while a smoother sounding treble with increased image depth and superior midrange transparency was also evident.



I therefore consider that the revision was indeed worthy of its *V2* designation.

The Scala V2

This £20,000 three-way bass reflex system is considerably friendlier in price, size and weight than the *Grande Utopia* and *Stella*, but will still deliver substantial audio power over what is regarded as the audiophile bandwidth. Basic parameters include a 125cm height, 40cm width and a considerable 67cm deep, including a massive and important integral plinth (with concealed castors). It weighs 85kg (nearly 190lb), and is unquestionably a two (even a two and a half) man lift. Quoted anechoic response is 28Hz to 40kHz +/-3dB, extending to a low 24Hz -6dB (the latter indicating the likely in-room bass extension available).

The bass is powered by a 280mm (11in) long-throw driver fitted with a generous 77mm (3in) voice-coil, and an extremely stiff and essentially piston W-series sandwich cone with multi-oriented glass fibre skins front and rear, bonded to an ultra light Rohacell core. Very much the voice of the system, the midrange comes from a 165mm unit operating from a low 250Hz up to 2.2kHz, fitted with a relatively large 40mm high power voice-coil and a W sandwich diaphragm, here with an open pole face to the magnet, thus avoiding acoustic discontinuities. The established multi magnet 'flower power' magnet system employed increases magnetic

flux uniformity and level, opens out the rear pole system to avoid cavity resonance, and improves through-flow cooling. The familiar pure beryllium inverted 25mm dome tweeter is used, operating up to claimed 40kHz (fortunately the upper limit for my B&K 4003 measurement microphone). This driver is built into a massive die casting that forms the treble section of the enclosure; its open construction vents into a large, damped rear cavity. The high flux density required for the magnetic gap involves Permendur alloy, and custom die castings are used for all the driver frames.

The quoted minimum impedance of a low 3.1ohms is perhaps not as bad as some examples, while the claimed voltage sensitivity is a genuinely high 92dB/8ohm, 2.83V watt, promising seriously high music drive sound levels for the 40-500W quoted power rating. In theory this means a massive 113dBA potential for a stereo pair in a larger (80m³) listening room. Whether it gets there in practice will depend on the high level power handling, and here Focal has a good track record, thanks to its involvement in studio, pro audio and very high power automotive. Furthermore, the generous 10 year guarantee is very welcome.

The crossover has integral three-step voicing adjustment, both for the upper bass and the upper treble, making a total of 9 combinations. These help take account of variations in room acoustic and speaker positioning, and their subtle effects on the

Focal Be tweeter with coaxial Neodymium magnets and Permendur pole casing



“Cathedral organ was now spectacular, beyond this speaker’s class and the size, while classical orchestral material was sumptuous and deeply layered. Singing voice was smooth and relaxed, well focused and with fine image depth and air”

response are clearly shown in the comprehensive manual. Suggested placement is free space, while the curved vertical geometry means that there is some variance with listening distance, with a sweet zone developing at 6 foot and more. Some degree of azimuth adjustment using the spiked floor coupling settings (metal discs added for polished floors) could also help focus the array towards seated ear height. (In practice, tests showed that the sound remained remarkably stable with azimuth variation.) (UK examples will replace the fixed height factory cones with adjustable spikes.) Crossover design is essentially classical second-order, built with high current low loss components and adjusted for good phase integration and stable off-axis radiation, with crossover points at 250Hz and 2.2kHz. Connections are via massive knurled WBT terminals, nicely accessible and good for wire, spade and 4mm terminations, though a wing-nut design would help increase contact pressures.

The interiors are massively reinforced with precision cut three-dimensional bracing, computer modelled for vibration and for predicted radiation behaviour. The dominant material is a specified high density MDF. The lamination and attachment of the side panel decor employs a lossy adhesive which damps vibration and blocks transmission, so the enclosure sides are singularly quiet in operation.

Sound Quality

Auditioning previous and new *Scalas* under controlled conditions proved very helpful, and I cannot deny the global improvement. This is not a small difference, and effectively establishes *Scala V2* credentials as a refreshed contender in the £20,000 sector. I was subsequently able to get the rather larger *Stella* (£65,000) wheeled in at the factory. The latter showed a greater turn of speed and significantly greater bass extension, power and scale, but it was also clear that the new *Scala* performance was now rather nearer the *Stella* than before.

Previously run-in, the delivered review speakers took a while to recover from transportation, vibration, handling and temperature variations.

Critical tuning and positioning therefore had to wait until after a few days of casual use. (Indeed, the large and massy enclosure actually required four days before temperature readings for the interior [taken *via* the port] had stabilised.)

First impressions were of a full blooded and particularly powerful sound. Peak sound levels were effortless, and music dynamics were uncompressed, particularly in the bass. This quality pervaded the subsequent sessions where this classical approach to bass tuning, exploiting the large enclosure, has resulted in an articulate and tuneful consistency for bass lines at almost any sensible sound level.

The lab results were helpful in understanding how to get the best from the design, in particular confirming the very low horizontal plane diffraction from the curved baffle panel, which facilitated both toe-in and toe-out operation. The low impedance loading also enabled instructive experiment with speaker cable impedance and termination torque. In particular I felt that hex nut terminations for a torque wrench would improve on the top quality knurled WBT terminals already fitted. This is because the ultimate degree of dynamics and transparency, as well as the upfront clarity and projection, was only obtained with top quality low impedance cable and very tight connections. (A polymer-faced wrench helped here!) While I now knew that the upper bass load impedance was rather low (2.5ohms) I felt that I had not experienced before so clearly the relationship between overall sound quality and termination tightness.

Scala V2 has an inherently kind tonal balance, does not exaggerate residual hardness in electronics or recordings, and is thus easy on the ear, encouraging playback at high sound levels. As sound levels increase, subjective dynamics and attack increase too, and this can significantly enhance the listening experience with this design. At lower levels the soundstage appears to recede somewhat more than usual. In contrast to some recent examples of the art, the *Scala V2* does not favour one source over another, and seems happy on both analogue LP and digitally sourced recordings.

There is a hint of BBC balance in the timbre, a touch of reticence in the upper mid which lends perspective and ease, but also mildly softens piano dynamics and slows perceived rhythms. Although powerful, extended and informative, the bass also seems a little relaxed and downbeat. That might appear to be a contradiction in view of the fine detail and that powerful, evenhanded low bass extension, but I feel that this overall character is to do with the by the designer’s intended overall octave-by-octave frequency balance. Certainly I would have liked a

little more dynamic expression and attack in the upper mid and lower treble.

I also experimented with the treble settings to see whether I could tame a degree of sibilant emphasis in the central treble. While the 'minus 1' position helped for an on-axis location, I also felt that it dulled the overall character too much.

This is where the inherent low diffraction behaviour came to the rescue. I first tried the axes nearly crossed in front of the listening position which gave super-sharp imaging and improved the treble balance, but resulted in a smaller soundstage that didn't really justify the price. I then found that with them set straight ahead I could still get fine focus and good depth, but now had an expansive image and pleasing room drive with the desired improved treble timbre, here reset to the 'normal' adjustment. Finally the spacing to the walls at the side and behind the speakers was adjusted for the most even bass extension, using -1 for the upper bass setting (in practice a mild effect, but one which beneficially focused piano timbre).

Cathedral organ was now spectacular, beyond this speaker's class and the size, while classical orchestral material was sumptuous and deeply layered. Singing voice was smooth and relaxed, well focused and with fine image depth and air. Strangely my old reference track, the Modern Jazz Quartet's *Blues for Junior* was rendered very clearly but could not shake me up much, while the eponymous *Leftfield* also seemed a tad anodyne, if excellently layered, articulate and tuneful. It's hard to convey the speaker's relaxed, more classically biased nature accurately, I felt that the sound was more Judy Collins than Joni Mitchell; more Norah than Ricki Lee Jones; more Mark Knopfler than Lowell George; more Jan Garbarek than Sting.

I was left with the impression of a speaker of great scale and poise, of low distortion, of great bandwidth in the low bass and high treble, and fine power capacity, very good stereo. This is classic high fidelity, not least because of its very low fatigue factor.

Lab Results

As I have noted previously with similarly large designs, space and distance is helpful in achieving useful measurement, so the following data needs to be viewed with caution. From experience, results taken at greater and more representative measurement distances and spaces are likely to show some improvement over those published. Nevertheless, it is helpful to explore the behaviour with the microphone first before settling into measurement, and right away here I found particularly good consistency and fine integration between the driver outputs. This was most promising and eased the task ahead.

On the central test axis (*ie* that of the treble driver), and at just 7° laterally (as is usual for *HIFICRITIC*) the main frequency response measured a wide 33Hz to 38kHz, +/-3dB (averaged for the pair) – a good result. However, interesting features include some evidence of the 'BBC dip': a 1.5 - 2dB trough 1.2 - 2.5kHz (which subjectively can lend space and perspective). The general theoretical basis for this is that it can moderate the commonly found power response 'step' that results from the changeover from a larger mid to a smaller treble driver, but it might just be a tad overplayed here.

There is also a raised response section of about half an octave around 7kHz, which is characteristic for nearly all the responses measured, and clearly evident in the lateral off-axis array of curves. It is certainly audible as an extra, albeit mild, touch of sibilance, and also as enhanced rivet sounds on cymbals.

The bass is very well tuned, with no measured boom and very good free-field extension to 30Hz -6dB. In practice this will continue in-room to a low 26Hz at a reasonable power level, though with the attendant higher group delay that this near maximally flat bass reflex technique engenders.

The midrange is very uniform to 1.5kHz, crossing over at 2kHz and with a quite steep acoustic rolloff, averaging 18dB/octave (assessed here by masking the treble output). Checking the 'tone' controls, the treble settings began at 2.5kHz and were confirmed as 1dB steps. The 'bass' control was more subtle, more like 0.4dB variation, here measured at 200Hz and in effect operating over the low midrange.

Interestingly, the room-averaged response measured uncannily well at frequencies below 2kHz. This was because the usual floor dip reflections in the lower midrange have been suppressed by judicious configuration of the top mounted midrange driver. The crossover between this and the near-floor bass unit acoustically bridges this perennial problem, and the benefit can be seen in the overall room response. Constructed from some 64 curves averaged in 1/6th-octave bands, the 70Hz to 1kHz midrange is uncannily uniform here, and it sounded like that too.

Some variation due to room modes is expected below 80Hz, but this speaker does continue down to a low 25Hz at good power, and this is easy to hear on audition. That touch of BBC 'presence' trough can be seen in the power related room response, made a little more obvious by the mild adjacent treble power excess around 7kHz.

As claimed the phase and integration of the driver outputs is excellent despite the use of simple, essentially 2nd order, crossovers. There is hardly any change in above and below axis responses, while the lateral output series, whilst revealing the 7kHz treble



The driver array

The System

Krell *Evo 402E*, Naim *NAP300* and D’Agostino *Momentum Stereo* power amps; Audio Research *REF5 SE*, Townshend *Allegri* control units; MSB *Platinum Signature IV DAC* with *Diamond* supply, Metrum *Hex* DACs; Naim *UnitiServe* network server and S/PDIF source; NAIM *NDS Streamer-DAC* with *555 PS(DR)*, Wilson Audio *Sophia 3*, Quad *ESL63* speakers; Finite Elemente *Pagode Reference* racks; Cardas *Golden Reference* and Transparent *XLmm2* cables.

Table1 Focal Scala V2 Harmonic Distortion % : Spot Frequencies 1W (91dB spl)

25Hz		30Hz		40Hz		60Hz		120Hz		200Hz		440Hz	
2 nd	3 rd	2 nd	3 rd	2 nd	3 rd	2 nd	3 rd	2 nd	3 rd	2 nd	3 rd	2 nd	3 rd
3.2	1.0	3.3	1.5	0.30	0.21	0.09	0.16	0.18	0.1	0.5	0.3	0.3	0.2

1kHz		3kHz		6kHz		10kHz	
2 nd	3 rd	2 nd	3 rd	2 nd	3 rd	2 nd	3 rd
0.1	0.5	0.15	0.09	0.22	0.05	0.24	0.04

Table2 Focal Scala V2 Harmonic Distortion % : Spot Frequencies 10W (101dB spl)

25Hz		30Hz		40Hz		60Hz		120Hz		200Hz		440Hz	
2 nd	3 rd	2 nd	3 rd	2 nd	3 rd	2 nd	3 rd	2 nd	3 rd	2 nd	3 rd	2 nd	3 rd
12	3.6	10	2.5	1.2	0.38	0.3	0.7	0.8	0.33	2.7	0.3	0.8	0.24

1kHz		3kHz		6kHz		10kHz	
2 nd	3 rd	2 nd	3 rd	2 nd	3 rd	2 nd	3 rd
0.33	0.8	0.3	0.1	0.6	0.1	0.6	0.05

feature, also shows very good overall unanimity. This demonstrates that enclosure diffraction is low and that side wall reflections in the room should not result in significant coloration.

Adding the grilles did impair focus and overall clarity. While performing better than some examples, with very little disturbance up to 2kHz aside from the coupled mass effect, I then noted significant (and audible) +/-2dB aberrations all the way to 40kHz, while mysteriously the fine metal grille assembly for the tweeter selectively attenuates 5dB of that hard won treble extension by 35kHz, though it does recover by 40kHz.

The *Scala V2* showed excellent pair matching up to 3.5kHz, typically +/-0.2dB, beyond which one treble unit was about 1dB greater than the other. Above 10kHz exact azimuth adjustment may add some measurement error.

Sensitivity was estimated at 91dB for the pair, close to specification. This is a higher than average figure but is rather compromised by the low impedance, here showing a problematic resistive minimum of 2.6ohms at 95Hz (this precisely referenced to a lab control), while nearby reactive regions of high phase angle means that still greater dynamic demands will be placed on the amplifier used. Here this Focal joins a club of high current audiophile designs that includes examples from Sonus Faber, B&W and Wilson Audio, where considerable care is required with terminal tightness, low resistance speaker cable and choice of powerful high current amplifiers, all of which will necessarily add to the system cost.

The effective mean impedance value of 4ohms will affect the true value of the power based sensitivity figure, and in this case knocks about 3dB

off, leading to an effective ‘real world’ 88dB/W. Make no mistake, it is still going to be pretty loud at the nominal 91dB/W voltage input figure, but lots of current may be required to feed this furnace – an estimated 33amp peak for full power.

Distortion results are generally good, though third harmonic is higher than average in this class at a few frequencies and powers (see table). On the other hand it took higher powers extremely well, confirming the excellent high level dynamics heard on audition. Unusually for the genre it could deliver 100dB at a low 25Hz for moderate audible distortion, and the same high sound pressure at 40Hz gave particularly good figures of 1.2% second and 0.36% third, which are considered well below audibility.

There was a little more distortion through the midrange even at a fairly low 86dB spl, for example -62dB for 2nd, but a potentially audible -45dB (nearly 0.6%) for the 3rd harmonic.

The short length and rectangular slot geometry of the port helped avoid the usual pipe resonances and this showed a very clean output. The revised reflex tuning was confirmed here at 36Hz.

The transient decay responses, showing how rapidly the output decays over time and frequency following excitation, also help reveal time alignment, transient response and potential coloration-inducing resonances. A good result is evident from the clear area at the beginning (following the primary frequency response at the top of the set), and the rapid early decay suggests both good transients and good acoustic integration. There are no tweeter ‘dome’ resonance modes in the pass band. However, there is also some mild clutter, thought to emanate from the upper midrange, which could slightly dilute

the sense of transparency and transient attack in the main treble region.

Conclusions

There is much to like about the *Scala V2* with its fine build quality, excellent finish, and modern yet timeless appearance. Once installed it settled in visually rather better than expected, and many visitors admired its bold, ‘industrial design’.

It sits stably and solidly on its support hardware, and certainly benefited from careful placement and alignment, yet its uniform deep bass made it less troublesome than many in this respect, while the subtle response adjusters represent the icing on the alignment cake.

It is essentially neutral and is comfortable with a wide range of music types, and of power and complexity. In nature it lends itself more to

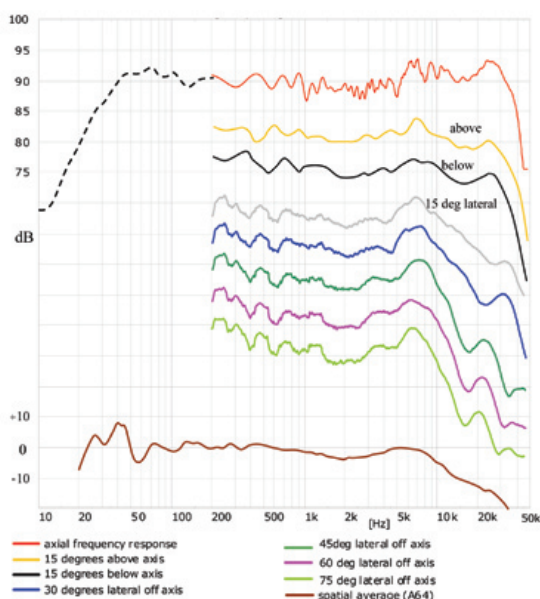
classical and folk than blues and rock, though it can nevertheless pack quite a punch, and its strong high level dynamics are in its favour.

It has very fine stereo imaging, focus and stage width, plus good depth, and never shouts no matter how loudly the music is played. Build quality is first class, it comes with a long guarantee, and promises a long and reliable working life.

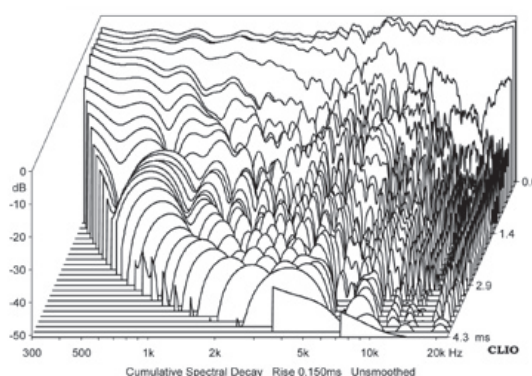
For a speaker of its size and price, the clean high level dynamics and consistent clarity are its star qualities, plus the ability to push strongly over the whole frequency range without faltering. Provided seriously muscular amplification with low impedance cables are available, and tight connections are maintained, those with larger (over 70m³) listening rooms will welcome the essentially neutral, classic character of this *V2 Scala*, which so clearly and substantially improves on its predecessor.



Focal Scala V2: Frequency Responses



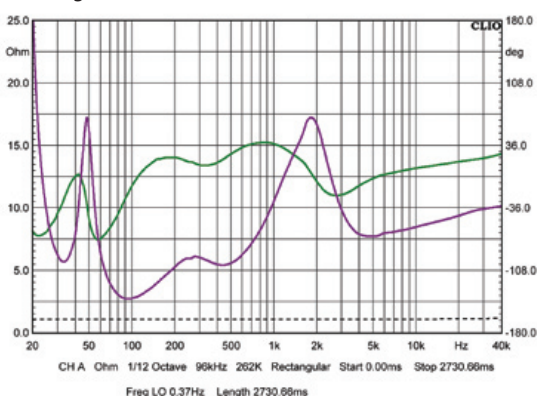
Focal Scala V2: Waterfall, unsmoothed, energy-v-time



HIFICRITIC Loudspeaker Lab Test Results

Make, Country	Focal, St Etienne, France
Model	Scala V2: moving coil, three-way, floorstander
Price per pair	£19,000
Finishes	Piano gloss: White, Black, Imperial Red, and ‘Hot Chocolate’; custom finishes available on request
Size (HxWxD), weight	125x 40x 67cm, 85kg (190 lb)
Type	3-way; 280mm bass, 140mm mid, 25mm Be treble; bass reflex loaded via floor level bass port
Sensitivity for 2.83V	91dB/W measured, 8ohm Watt, rated ‘high sensitivity’
Amplifier loading	4 ohms typical, 2.6ohm min: ‘difficult loading’
Frequency response, axial	33Hz to 38kHz +/-3dB
Frequency response off- axis	Very good uniformity, see graphs and in-room response
Bass extension	33Hz for -6dB, (25Hz in-room)
Max Loudness, in room	110dBA for a stereo pair, ‘very high’
Power rating (max, min)	300W, 50W needs generous amplifier current rating
Placement	Floor standing in near free space (transit castors, then floor spikes)

Focal Scala V2 Impedance: MLS Frequency Response and Phase (green)



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Subjective Sounds

PAUL MESSENGER

HIFICRITIC

AUDIO AND MUSIC JOURNAL

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Having spent many years conducting group tests on mainstream, popularly priced loudspeakers, I find myself doing one-off reviews on a wide range of unusual and interesting models, most of which are best described as unique one-offs themselves.

Although it doesn't provide such an informed view of the sharp end of the market, this change has the notable benefit of providing a broader perspective on the wide – and indeed rather more interesting – diversity of speaker design.

I currently seem to be fated to receive a number of speakers with 'full range' drive units. A couple feature in this issue, at least two are planned for the next, and I've tried a number of others over the years and elsewhere.

That's enough exposure to more or less convince me of a number of observations. First, crossover networks are inherently bad things that are far better avoided if at all possible. Secondly, the single 'full range' driver approach is unquestionably valid in theory, but invariably compromised in practice.

Thirdly, and much more contentiously, high sensitivity (and/or efficiency) seems to be an essential ingredient in achieving realistic dynamic expression. Comparing the dynamic behaviour of full range driver loudspeakers of high and average sensitivity leaves me in little doubt that sensitivity is an important factor.

The ideal would therefore be a high efficiency, full bandwidth speaker with a single full range driver. Such speakers might exist, but a pair would probably need to be loaded by horns the size of a house, and that is hardly practical.

In the final analysis of course, practicality lies at the heart of the problem. Many people want small (and if possible invisible) loudspeakers, and that explains the widespread enthusiasm for miniature loudspeakers at a variety of quality and price levels.

Now I'm not going to say these little speakers don't work, often rather well by their own lights, but they're never going to provide the 'shock of the real' that a much larger, higher sensitivity speaker is capable of delivering. Small loudspeakers can be very capable indeed at reproducing sound, but to these ears at least are largely incapable of fooling the ears into believing that they can mimic reality.

It's ironic that the development of technology has actually had a negative impact on the way hi-fi has evolved. Small speakers only started appearing after the arrival of higher power amplification and the introduction of two-channel stereo. Without those stimuli, we would probably still be listening to one large, high efficiency loudspeaker, and consequently hear something closer to the original sound, rather than settling for a reproduction thereof, however accurate.

Few people have the inclination, the funds, or the space to accommodate a pair of Tannoy Westminster Royals, but quarter-wave speakers go some way towards horn loading, and I've tried a couple of examples in recent years that have worked rather well, don't take up a huge amount of funds or room space, and feature single full range drivers with decent sensitivity.

The Bodnar *Sandglass Fantasy* (reviewed in *HIFICRITIC Vol6 No4*) is quite a steal at £3,500. And although it can't quite match the Bodnar's all round performance, the £2,550 Cain & Cain *Abby* is somewhat smaller, looks rather prettier and costs less, so is another likely contender.

Although these two models do have quite a lot in common with each other, both are so very different from today's loudspeaker norm they're all too easily overlooked. Compared to many of today's luxury miniatures, however, they seem a remarkably good deal, and do at least bring a taste of genuine hi-fi realism to the table.