

# Future Now...

## The finite elemente Modul LS Loudspeaker

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by Roy Gregory

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One look at the finite elemente Modul LS should tell you that this speaker is far from run of the mill. Mind you, one look at the price-tag says that it had better be. Conclusion? There's a lot more here than meets the eye...

The Modul LS represents quite a departure for finite elemente, constituting both its first ever loudspeaker and first ever electronics project. It's a hybrid, active design, where on-board amplifiers are responsible for the low frequencies, while the rest of the range is driven in conventional fashion. More and more manufacturers are adopting this approach, drawn by the versatility it offers and the possibility of extended bandwidth from a compact enclosure. But few have taken the concept much further than that. What sets the Modul LS apart is the completeness of its vision; not only is it both a standalone product and a vital element in a wider system concept, it has also used innovative construction and implementation to maximize the potential of its hybrid format.

Of course, it's quite a jump from building furniture to creating a complex, genuinely full-range, part active loudspeaker system, so finite elemente has concentrated on what it does best, structure and cabinet work, then partnering with an established speaker designer with specific experience to help choose the drivers and their implementation, while Trigon was employed to develop the active crossover and amplification module.

The speaker system itself is a three-way design, featuring a 25mm aluminium dome tweeter, a 180mm paper-cone midrange and a pair of 250mm metal-coned bass units, all of Scanspeak design. These provide a usable bandwidth of 10Hz to 22kHz, the bass units being actively equalized and each driven by a 500 Watt IcePower module. So far so good and nothing terribly out of the ordinary. That's because the first and ▶

▶ most obvious departure comes in the structure of the speaker cabinet. This is a three-part construction designed to control the passage of energy within the cabinet. The passive section, containing the mid and treble drivers along with a separate chamber for the passive crossover, takes the form of a flying baffle constructed from lightweight multi-ply board, 19mm thick and faced with MDF skins.

At the rear is an 8mm aluminium plate that is matched by an identical plate on the front face of the bass cabinet. The two plates are separated by a quartet of ceramic balls and clamped together by a pair of stainless steel 'bolts', passing through the plate on the front of the bass cabinet and spaced from its rear by roller bearings, maintaining point contact between the plates. The result is a structure with a resonant frequency lower than the operating range of the drivers and a ready exit path for that energy.

The compact bass cabinet is constructed from high-density beech multiply, 30mm thick. Its 20.5 litre volume stands on a plinth coupled to the floor by four of finite element's CeraBase feet. This extremely rigid arrangement has a higher resonant frequency than the operating range of the drivers it contains, and again provides an effective mechanical ground, with feet that are perfectly at home standing on beautifully polished wooden floors.

That is far from a coincidence, because the Modul LS is part of the new Modul furniture range, an elegant modular solution to the problem of accommodating today's multi-media systems in the increasingly Spartan and minimalist interiors that are currently

fashionable. The dimensions of the speaker, its plinth, appearance and many available finishes all integrate perfectly with the Modul storage units.

The concept goes further than that. Modul furniture elements incorporate the ability to route signal and power cables, fit power sockets and even cooling fans. The individual cabinets are decoupled from one another and there are even speakers that can be built into modules to provide a discrete centre channel or front three-channel array.

But the *pièce de résistance* is the set up



protocol. The active element of the Modul LS naturally includes a degree of room adjustment and compensation. But rather than the simple level control and phase switch

found on most such speakers, the finite element solution is significantly more sophisticated and couched in different but highly intuitive terms. As well as level and phase control for the bass output, you also get eight step settings for room size and hardness, a subsonic filter (to protect the drivers and electronics if you really want to party)

and a factory default setting. But the best bit of all is that all these parameters are adjustable from the listening seat via an extremely solid, wired remote with its own menu driven display. Speaker set up is a doddle, just as soon as you work out the way the various performance factors interrelate.

The combination of the room size and hardness settings allow you to tweak the transparency of the soundstage and the body and presence of the images within it. With individual

settings for left and right speakers,

I was able to compensate easily for the light, tight bass in my room – and its asymmetry.

With a 90dB sensitivity and four ohm rating for its passive section, the Modul LS still needs a little driving, but I found the 50 watts of valve power delivered by the VAS Citation Sound 2 monoblocks more than capable, while integrating their sound with the active bass was no problem at all. And don't go getting the idea that the Modul LS is an aesthetical hog-tied compromise. These speakers are more than capable of standing comparison with the competition, with a combination of coherent bandwidth and a tactile, immediate mid-band, underpinned by those tuneable low frequencies. Indeed, in many ways the most impressive thing about these speakers is the way in which the technology and effort that's gone into the bottom end has been made to serve the all-important midrange. It's easy to look at these speakers and assume that they're all about big bass from a compact box. Actually, they're about a solid, credible sound from those minimal dimensions, much more about quality than sheer, brute quantity. ▶

► Using a familiar voice to set the low-frequency parameters will ensure solid, dimensional presence across the broad mid-band, something that the Modul LS excels at. Switch to orchestral music and you'll be rewarded with a beautifully spread and voluminous soundstage, instruments boldly separate within it. Woodwinds in particular manage to retain their natural, piping tone without sounding thin or hollow. They stand testament to the way in which this speaker manages to sound both tonally rich and transparently lively. Indeed, the finite speakers offer a purposeful directness to performances that is engaging and exciting.



Can they do delicate and subtle? Richard Thompson's *1000 Years...* live discs contain myriad examples of the man's ability to conjure simultaneous bass lines from his acoustic guitar, lines of astonishing depth and power. The Modul LS captures that interweaving finger-work effortlessly. At the same time, his transition from 21st Century Britney back to the 14th Century in the middle of 'Oops I Did It Again' passes without hesitation or a missed

step. But the musical news from this disc isn't all good, and just like the live event, the version of 'Friday On My Mind' captured here clearly reveals the drumming and backing vocals reaching the ragged edge of control and acceptability. Enthusiasm is one thing, but even I have my limits and to their

considerable credit the Moduls conjured exactly the same slightly uncomfortable sensation from the disc that the band did live.

So much of the communicative clarity and sheer presence that makes music so vivid and enjoyable with these speakers is propelled by the quality and character of the bottom end. You can only bend the laws of physics so far, and with such large drivers and so much power coupled to such a small internal volume the bass will always lack a little of the sheer breath and generosity you get from a much larger cabinet that's driven passively. Indeed, the heavier the equalization the more pinched and punchy the bass tends to become. In a speaker like the Modul it is a mistake to fight it. Instead, enjoy the space, clarity and substance it injects into performances, the life and raw energy it can deliver. Compare it if you like, to a turbo-charged four cylinder. Undeniably exciting and poky, it will never quite have the sheer grunt of something larger and naturally aspirated. So play to its strengths – which is exactly what the finite elementes do.

This is a speaker that looks neater and far more polite than it sometimes chooses to sound. Don't get me wrong, its musical manners are impeccable

when they should be, but just give it a hint, even the merest sniff of music's wilder side and it will respond with gusto; that potential, just waiting to be let loose, makes for vivid and dramatic performances on demand, poise and restraint when required. It's a winning combination, especially if your tastes are catholic and your room modishly minimal or acoustically challenging. Music starts in the midrange and so does the thinking behind this product.

The Modul LS gets its design priorities in the right order and its musical ducks in a row, to deliver an awful lot of useable performance from an awfully attractive package. Add in the discrete multi-channel options and the integrated storage solution and you could just be looking at the shape of things to come; pricey but classy with it! ➤

#### TECHNICAL SPECIFICATIONS

Type:	Hybrid loudspeaker with active bass
Driver Complement:	1x 25mm aluminium dome tweeter 1x 165mm paper cone midrange 2x 250mm aluminium cone bass
Sensitivity:	90dB
Impedance:	4 Ohms
Bandwidth:	10Hz – 22kHz ±3dB
Dimensions (WxHxD):	200 x 1100 x 565mm 265mm inc. plinth
Weight:	58kg
Price (per pair):	£19,000-£22,000 (depending on finish)

#### UK Distributor:

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