



# The Nola Pegasus Loudspeaker System

by Roy Gregory

Some things are just plain simple and others are unavoidably complicated. But there's also another, more intriguing category of things that are simultaneously simple (normally in theory) and complex (in execution). The Nola Pegasus takes this duality to a whole new level. There's barely a single aspect of its history, construction or performance that could be described as straightforward. Whatever you say about it seems to require some form of qualification, a situation which presents the reviewer with an interesting duality of his own – there's plenty to say (which makes writing easy) but arriving at a concise distillation of the product's essence? That's far more difficult. But it's also necessary, because the Nola Pegasus does some things – important things – more convincingly than any other speaker system I've used. It's the how and the why that I'm having trouble with – partly because the speaker itself is only part of the equation.

The name Nola might not be familiar, but the brand's heritage lies with Alon, a company with a long history that includes both the compact, relatively affordable and really rather English (in sound as well as style) Lotus Elite models reviewed back in Issues 25 and 29, and the unmistakably American Nola Grand Reference, a massive, four-tower system that currently resides on the end of Harry Pearson's legendary reference system at Sea Cliff. I mention those products because the Pegasus exists in part at least, as an attempt to bridge the

yawning chasm that separates them: On the one hand, the compact, eight-inch three-way Lotus, on the other, the four, eight-foot towers, dozen or so bass drivers and six-figure price-tag of the NGR. Clearly, not everybody has the space or financial wherewithal to accommodate the latter, but there's also a substantial customer base who'd like a slice of its performance – demanding more than the Lotus can deliver. What's more, as different as those speaker systems appear to be, they do share certain fundamental design features that constitute a common approach, a design path that leads inevitably to the form of the Pegasus.

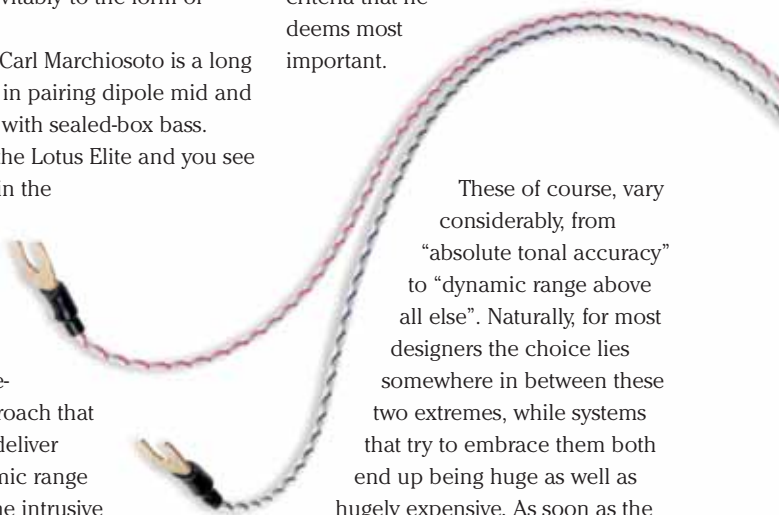
Designer Carl Marchiosoto is a long time believer in pairing dipole mid and treble output with sealed-box bass. You see it in the Lotus Elite and you see it, writ large, in the NGR. He also likes sharing the load between multiple drive-units, an approach that he feels can deliver greater dynamic range with less of the intrusive strain that makes systems seem loud when in reality they're just struggling. He also likes to get his cross-overs outside of the speaker cabinets, away from the destructive effects of vibration. These are all themes that appear in the Pegasus, but before we look at that speaker in

detail, let's just take a moment to understand the thinking behind them. After all, most of them fly firmly in the face of the smaller, simpler, neater dictates of current high-end fashion.

Whilst it should be a truism that high-fidelity loudspeaker systems are primarily concerned with accuracy, the reality is that most designs deviate so far from that ultimate goal that the question actually becomes accurate to what? To a large extent, it's the performance goals CHOSEN by the designer that inform his subsequent choices. In other words, the musical (and in many cases marketing) criteria that he deems most important.

These of course, vary considerably, from "absolute tonal accuracy" to "dynamic range above all else". Naturally, for most designers the choice lies somewhere in between these two extremes, while systems that try to embrace them both end up being huge as well as hugely expensive. As soon as the issue of actually trying to sell the product imposes a few practical and dimensional challenges, reality recedes a long way beyond the design horizon.

What Carl Marchiosoto wants from a speaker system is the sense of a live performance, a quality that dictates that instruments and voices be



► recognisable not just tonally but in scale and presence too. It means understanding both the message in the performance and the occasion itself, which means a convincing spatial portrayal combined with a musical performance that breathes. Hard to achieve from a speaker the size of a Lotus Elite, but stunningly realised in the NGR. To that end he seeks to keep all his designs as linear as possible and as even in energy propagation. Hence the smooth roll-off and wider bandwidth of the sealed-box bottom-end, the space and scale created by the dipole mid and treble, the lack of dominant colouration as a result of structural vibration (due to the separate cross-over and elimination of the midrange box) and the dynamic ease occasioned by multiple drivers sharing the same bandwidth. Freed from practical considerations, the NGR can take the recipe to its logical extreme. Trying to render that mix more manageable as well as more affordable has resulted in the Pegasus, as fascinatingly revealed by the physical form of that product. It's also reflected in the attempt to simplify the concept and material content – and the complexity that's resulted.

The Pegasus is a large – no, let's make that huge, at least by UK standards – floor-standing dynamic loudspeaker system, each 170cm tall tower containing no fewer than 11 separate drivers. Then there's the 64cm depth of each cabinet, exacerbated by the need to accommodate the separate crossover box that must be placed directly behind each speaker. The final footprint is around 120cm deep, once the speaker is actually installed. Yes, it's big – but it's tiny in comparison to the NGR, mainly because the four-box format has been condensed through

the simple expedient of standing the main cabinet on top of what was the bass tower. Voila, two structures where there were four. If only it was that simple...

The base box (or should that be "bass box"?) stands 46cm high, extends the full depth of the main cabinet and contains four 200mm drivers, placed back to back in pairs across the cabinet.

Internally, each pair occupies its own sealed sub-enclosure, the smaller volume and cross-coupled drivers allowing greater control of low frequencies.



This cabinet's output covers the range from below 20 up to 40Hz. This cabinet in turn supports the upper one that handles the rest of the range. But remember the Nola stricture regarding colouration from unwanted mechanical energy? Those four drivers and their associated motors (eight if

you consider both channels) will deliver genuine low-frequency acoustic energy into the listening room. But that prodigious capability is reflected by an equal amount of energy driven back into the bass cabinet structures. The opposed drivers will result in some cancellation, but there will still be plenty of excess to go round and the last thing you want that spurious mechanical energy doing is modulating and smearing the higher frequencies, especially the absolutely critical mid-bass, handled by the drivers directly above.

The answer is to isolate the cabinets from each other and to this end Marchiosoto has developed a ball-bearing isolation system similar to the Symposium Roller Blocks reviewed in Issue 41. Only here, there is no dip in which the balls sit. Instead they are supported between flat steel plates recessed into the cabinets, in each case, the front corner one being retained by gate bars to prevent the whole top box simply rolling off of the bottom one.

The end result is that the upper cabinet can actually move disconcertingly freely relative to its supporting base, at least in the horizontal plane, an arrangement that requires perfect levelling of the speaker if all the cabinet edges are going to line up – pretty much a visual necessity with cabinets this size, as well as a mechanical one if the isolation system is going to work properly. Fortunately, adjustable spikes under the bass cabinet make this surprisingly easy to accomplish – at least until you get involved with the cross-over, but I'll come back to that.

The top cabinet extends the full depth of the base box and is

► fronted by another pair of the 200mm drivers, arranged one above another and this time firing forward. These cover the range from 40 to 500Hz, although once again, the arrangement is far more complex than it first appears. The enclosed volume is not as deep as you initially assume, the rear baffle falling some 250mm short of the cabinet rear. What's more, a horizontal divider inside the cabinet creates two separate, non-symmetrical sealed volumes of differential dimensions (an approach carried over from the twin bass drivers in the Lotus Elite). The lower driver only runs up as far as 200Hz, the upper one covering the full range, an arrangement that further spreads the resonant signature of the system. But the really clever (or weird) part is in the back. Here, the open box left by the recessed rear panel is occupied by a horizontal baffle positioned at half height, carrying another 200mm driver, this time operating in free space. Its output is limited to rear radiation and it operates across an incredibly narrow 80 to 120Hz range. Why is it there? In truth, I'm not sure even Carl Marchiosoto can give you a definitive answer to that. Ask and he'll talk about the dipole output from the driver giving a little air and texture to the mid-bass, a range he (rightly) considers especially critical to convincing musical reproduction, but the bottom line is far simpler than that: it just sounds better that way. Given that the driver runs off its own cross-over leg it's a proposition you can easily test for yourself. The effect is, I can assure you, far from subtle. Which only leaves the question, how on earth did he discover it?

From here on in things get a little simpler. The 40mm thick front face of the upper cabinet extends to create a flying baffle that carries a pair of 100mm plastic/pulp laminated midrange drivers and a pair of 25mm

### System and set up...

The Pegasus is a physically large and visually imposing speaker system, although less so than the dimensions might suggest. The pale wood veneer of the review pair undoubtedly helped, as did the fact that they stand straight in the room, without any toe-in. I ended up with the baffles around 140cm from the rear wall, although such is the low-frequency power available from the speakers that this needs to be carefully adjusted to accommodate the specific bass character of partnering equipment. Although a full set of grilles is provided they should be discarded for listening; anybody making this kind of spatial and

magnesium alloy dome tweeters, all of which are arranged or vented to allow dipolar dispersion. The top edge of the baffle is sculpted to minimise diffraction effects and to relieve the otherwise block-like appearance of the speaker, again an echo of the Lotus Elite.



Less obvious parallels also exist, like the use of AlNiCo magnets throughout the system's drivers and the separate cross-over cabinet, although here again, the Pegasus takes things to new levels. Both the capacitors and the air-cored inductors employed in the five-and-a-half-way cross-over (count 'em) are proprietary designs developed for the NGR. In the case of the bass leg, that means a hand-wound, air-cored coil seven-and-a-half inches in diameter and weighing 17lbs; just anchoring it into the cabinet is a significant

financial commitment would be mad to compromise the sonic results – which is exactly what the grilles do.

The efficiency of the Pegasus is lower than the number of drivers might suggest, underlining the considerable bandwidth of the system. However, moderate impedance means that as long as sufficient power is available, most amplifiers will be surprisingly comfortable. I achieved excellent results from bi-amping with the KR Antares (4x 20Watts) and a single pair of Linear Bs (2x 55Watts). The Hovland RADIA, VTL S400 and Moon W-8 power amps were capable of deliver

problem. And with so much bass energy generated by the system, simply removing the majority of the cross-over from the cabinet was deemed insufficient to protect it from structure borne interference, so the separate enclosure was provided with its own isolation system identical to the one that separates the base and top cabinets of the main system.

Obsessive I know, but I doubt that you've even considered the following: you are now faced with a speaker and cross-over that both float independent of each other, and which must both be levelled and have their interconnecting cables dressed in such a way as to prevent interference with their isolation system. Oh, and did I mention that the whole thing needs to be tri-wired? Fortunately I'd arranged to have a set of Valhalla hook-up wires made with spades at each end, a perfect interface with the excellent copper binding posts on the Nola speaker components. Careful dressing of these stiff, individual conductors allowed them to provide a little stability in the lateral plane, which was a useful thing, but now you can appreciate why the cross-over has to be placed ►



▶ behind and perfectly in line with the main cabinet.

Which just about covers the physical details...

But before moving on lets quickly recap from a conceptual rather than material perspective. The Pegasus is a textbook example of form following function. The designer believes that several factors are key to the convincing reproduction of musical events and these are carefully dovetailed together in this design. He stipulates wide bandwidth and coherent spatial presentation, goals achieved through the use of a substantial driven area,



but one disposed in such a way as to still provide a minimal frontal area (the Pegasus is only 260mm wide) and carefully configured dipolar dispersion. Good power handling and dynamic capabilities are achieved through sharing the signal between 22 different drivers, yet all use the same (unusual, expensive and bulky) magnetic material and despite the sheer number of drivers employed there are only actually three different types!

Considerable effort has gone into the control of mechanical energy within the system's structure in order to prevent intermodulation distortion and colouration undermining the natural tonality of those AlNiCo motor units. And whilst the assembly of so many physical elements is necessarily complex, the dictum that in hi-fi, simplicity rules is reflected in the fact that despite the five-and-a-half way cross-over, the slopes are actually 6dB quasi-first-order, offering astonishing phase coherence from such a wide bandwidth transducer. Which I guess is where we started out, with convincing scale and coherent spatial presentation.

Like I said – conceptually simple but the execution is intricate in the extreme.

The personal, hands-on nature of the design is also unusual, given the material complexities involved. It's visible in those bespoke, solid-copper terminals, apparent in the proprietary cross-over components and underlined by the insistence that the rear-firing bass driver receive its own run of speaker cable. As extraordinary as that sounds, again, the benefits are clearly audible, whilst trying to replace the simple spikes provided with something more exotic also proved destructive to the system's integration. Astonishing though it might seem, literally ever aspect of this mammoth project has been carefully weighed and considered by the designer in an exercise that borders on obsession. Just take a look at the height of the tweeters – that can't possibly work,

can it? And two of them, so close together? Well, it does work, spectacularly well. How and why I can't begin to say (and nor, it seems, can Mr Marchiosoto). But what I can do is recount the effect, the sheer musical impact of this speaker system.

If the designer's intent was to bring the musical performance to life then he's succeeded – dramatically. There's a natural, utterly convincing sense to the music delivered by the Nola Pegasus. Time and again, incidental noises or little synth motifs will have you looking around for the person behind you or running for the phone. The individual sounds and instruments seem to escape the confines of the speaker and the recording, taking on a real, solid presence of their own. It's a hard effect to describe but an easy one to illustrate; just turn out the lights...

Time and again I've astonished visitors (the non-hi-fi variety compelled by the sheer size of the Pegasus, the aficionados driven by the same



logic but for different reasons) by playing them the Nolas under black-out conditions: the speakers simply disappear! As large and visually imposing as they are, remove the visual cues and those two imposing towers are replaced ▶

► by a single, coherent soundstage, peopled with discrete, real, breathing musicians. Play the right recording on the right source and the effect is spookily realistic. The favourite party piece has become the DCC re-issue of *Ray Charles and Betty Carter* (LPZ-2005) which, played on the Kuzma Stabi XL/Airline/Lyra Titan record player brings the performers right into the room. And it's a particularly interesting example because it gives some insight into just why these speakers pull you into the performance the way that they do.

First thing to note is that this is not a stellar recording in the stereo sense. It's too hard left and right for that. Ray and Betty are well to the fore the backing band well back (we wouldn't want to upset the status quo here!) so there's no, single, coherent acoustic on the recording, but that doesn't seem to matter to the Nolas. They present a coherent space, but more important is the nature of the images with which they people it. Betty stands to the right of the stage, a solid presence which captures both her power and her range of expression (just listen to her doing 'coy' on 'Baby It's Cold Outside'). You can tell she's standing from the way her voice is reflected from the booth boundaries and more importantly the floor, but also because you hear way down past her mouth and throat, past her chest, all the way to her diaphragm and a singer can't project power like that if they're sitting down. So it's partly a spatial thing but more to do with the tonality and nature of the voice – and it's the latter that the Pegasus captures so precisely.

Ray is seated stage left. Again, we know he's seated because he's Ray and he's playing the piano, but we actually don't need to compute that additional information – the cues are all there in the recording. Once again, the placement and acoustic environment

of the voice tell us everything we need to know: we can hear that he's seated and we can hear the reflections off the hard surfaces of the piano in front of him affecting the spectral balance of his voice. The speakers also centre it in terms of height and the way in which the energy expands, with a sharp cut-off in front of him. But most telling of all is the relationship between his vocal and piano lines, so tight, so intimate that there's no question that they were taped as one. The timing and humour



in 'Baby It's Cold...' survives because that relationship is preserved, and the Pegasus preserve it better than any other speaker I've heard this record on.

The brass tuttis that open the track are massively solid and present, but so too are the muted phrases that back it throughout. The cymbal work is subtle, but again it's stable and utterly solid in space. Betty is placed slightly outside the right-hand speaker, while Ray is well to the left of his. Everything is in proportion and the scale of the event is utterly convincing. The spatial placement and environmental details are all things I've heard before, but what the Nolas do is both render them more explicit and make them make more sense. Combine it with the astonishing presence and solidity they bring to images and the results can be breathtakingly real. Of course, the final effect depends on the music performed and the nature and quality of the recording. Ray and Betty are acoustic, they're on vinyl and they're of a scale that a system like this can match convincingly. The recording is one of those that sounds impressive on pretty much anything – although nothing has yet sounded as impressive as the Pegasus. A large-scale orchestral work won't scale the same dizzy heights of realism, simply because of the power and weight involved. But – and this is the important thing – the Nolas bring the same sense of natural ease and solid presence to proceedings, which in turn elevates the emotional scope and impact available from the recording in exactly the same way.

What is it about the Pegasus that makes its presentation so natural? ►

► After all, it's far from the most transparent, detailed or dynamically immediate transducer I've used. It can't match the sheer coherence and intimacy, the preservation and insight into the relationships within the performance that come with the Avalon Eidolon Diamond. Nor can it match the sheer information available from the Marten Coltrane or what they tell you about the recording itself. But what it has got (like those other speakers) is its own, unique balance of virtues, based on a combination of harmonic correctness and realistic bandwidth. The tonality of this speaker is spot-on (the one area in which I suspect that



the Pegasus actually exceeds the NGR – a statement based on fleetingly brief acquaintance with the latter and thus shaky ground); it's neither lean or bleached, nor overly rich or warm. Instead, the harmonic envelope of

notes and instruments, the impact of the acoustic space are reproduced with uncanny accuracy. It's especially noticeable in the way that voices don't just hold their character, but are allowed to breathe and emote. It's what makes Ray and Betty so impressive, but that throbbing life and energy that identifies and informs the human element in live performance is there

whether we're talking Chopin, Cannonball or Cure out-takes.

It's the creative tension and structure that transforms noise into music, and the Nolas preserve intact and in full.

It's tempting to place the credit for the harmonic accuracy of the Pegasus at the feet of its AlNiCo magnets and they doubtless contribute (as evidenced by prior experience with the various Lotus Elites and the Dynavector XV1-S cartridge, whose AlNiCo generator exhibits similar qualities) but that would be too simplistic. Contributing too, and generating the gulf in performance between this speaker and the cheaper Nolas, are the cross-over and the care that's gone into presenting the music's energy spectrum. I've already discussed the proprietary components and the inherent simplicity of the slopes employed in the network, key elements in preserving temporal and spatial relationships, but let's not overlook the way in which this speaker system handles both the energy budget and its nature. If you want to model (let alone match) the dynamic range of real life you are going to need to

move some serious air, simply to generate the necessary acoustic energy. Of course, doing so generates its own problems. You've got to deal with the back wave generated within the system as well as ensuring that the energy projected into the room mirrors both the quantity and quality of reality.

Let's take the unwanted energy first. It has to go somewhere and the last thing you want is it cropping up unexpectedly out of band. The lower the frequency the bigger the problem, and there's no point providing those musical foundations if the unwanted side-effects reappear to smear and muddy the frequencies built upon them. Hence the importance of Carl Marchiosoto's insistence on not just cancelling bass energy through the use of opposed drivers but also mechanically isolating the lowest frequencies, measures that clearly work. What is less obvious is his appreciation of the importance not just of the clarity but also the nature of the mid-bass. Disconnect that extra, rear-mounted driver and hear the magic, the presence and life, evaporate. Not only does the Pegasus provide clean energy through this critical and under-rated area of the musical spectrum, that extra driver provides the air that allows the bass to float and breathe.

But there is one area in which the Pegasus is unavoidably compromised: Those high frequency units and their positioning. Image height seems unaffected in some cases, in others – such as the violins in the Barbirolli Sibelius 2 – instruments seem to climb with frequency. It's not a major intrusion and it might well reflect both the recordings and my own inability to overcome my incredulity at the height of the tweeters, but it seems to be the one thing that mars the absolute spatial continuity of the picture presented. The other concern is their extension. With speakers ►

► like the Avalon and Marten, as well as a whole herd of B&Ws offering exotic tweeters, the limitations of the Nola's drivers, good as they are by conventional standards, are clearly heard. It's a failing underlined by the addition of a pair of supertweeters, a simple expedient which elevates the speakers' performance still further in the realms of transparency, focus but more importantly,




dynamic range, bass definition and immediacy. Impressive enough in standard guise (and they are) the super-tweetered Pegasus steps up another league, inheriting the spatial and dynamic continuity that make the NGR so impressive and musically compelling. You can read more on this subject in the review of the Elac 4Pi tweets in Audio Smorgasbord, and it's a subject to which I'll return once I've investigated further. In the meantime, it's an avenue any prospective Pegasus owner should

definitely investigate.

There's one other quality that the Nolas bring to a system on which I've yet to touch and that's the sheer ease of their reproduction. Indeed, so devoid of strain are these speakers that they will play most music at most levels equally convincingly. Time and again I've found myself happily playing music at crashing volumes without realising it until some outside agency intrudes. You mute the system in order to answer the door (once you hear the knocking between tracks!) and when you return the shock almost blasts you from the room. So, it'll play loud, but more importantly, it does so without drawing attention to itself. I believe

this easy quality is critical, both to the expressive range that these speakers allow, but also to their absence of intrusion into musical proceedings. You simply don't hear them working or taking up the strain the way you do with most speakers – a factor that's crucial to maintaining the willing suspension of disbelief; or simply getting on and getting down, depending on your want.

Nola's Pegasus is as convincing an argument for expensive hi-fi as I can find. No special appreciation of nuance or hi-fi intricacy required here. These speakers deal in reality, a quality even the uninitiated

recognise. In fact, especially the uninitiated – one listen to these and they get knocked sideways. Isn't that what hi-fi is supposed to do? Isn't that what it used to do? Ever wondered why it doesn't seem to do it any more? Well, if you're tired of excuses listen to the Pegasus – treat them right and they'll give your system wings. 

#### TECHNICAL SPECIFICATIONS

Type:	51/2 –way hybrid, dynamic, di-polar speaker system
Bandwidth:	20Hz –25kHz $\pm$ 3dB
Driver Complement:	2x 25mm magnesium alloy tweeters with AlNiCo magnet assemblies. 2x 100mm tri-laminate plastic/pulp midrange drivers with AlNiCo magnet assemblies. 7x 200mm doped paper bass drivers with AlNiCo magnet assemblies.
Crossover Points:	40Hz, 200Hz, 500Hz, 3500Hz with separate mid-bass driver operating between 80 and 120Hz
Efficiency:	88dB
Impedance:	8 Ohms nominal (4 Ohms minimum)
Phase Angle:	$\pm$ 30 degrees
Dimensions (WxHxD):	260 x 1670 x 640mm (+ Cross-over)
Weight:	90kgs
Finishes:	Merlot walnut, light ash other woods available
Price:	£39,000 standard finish

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