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Reference 3A Grand Veena Loudspeaker

by Roy Gregory

Reference 3A loudspeakers have always met with a warm welcome at Hi-Fi Plus. Indeed, the Da Capo is something of a benchmark product chez Gregory, its combination of efficiency, an easy drive characteristic and the company's trade-mark direct-coupled bass-mid driver delivering an astonishing sense of musical scale and tactile communication from its comparatively compact, stand-mounted cabinet. Likewise, PM was suitably entertained by the hot-rod Royal Virtuoso version of the Da Capo, while CT positively swooned over the diminutive Dulcet. But what we have here is about as far from a two-way stand-mount as you can get. Given that the potential for success in any speaker design plummets exponentially with each increase in the number of drivers, can Reference 3A really translate the virtues of their simple, direct approach to an imposing four-way, five driver floor-stander?

On the face of it, the Grand Veena represents quite a stretch, but look a little closer and we actually find evolution rather than revolution. What the designer has actually done is graft a few of the more consistent emerging trends in loudspeaker design onto his existing concept and then further refined the mechanics and construction. So, the heart of the Grand Veena is its 180mm direct-connected, woven carbon-fibre midrange unit. Derived from the in-house unit employed in the smaller Veena model, it runs from around 94Hz with useful

output up to 8kHz. It's bandwidth is entirely mechanically controlled, the gentle low-end roll-off a result of the separate, sealed volume that loads it, whilst the company makes extensive use of AVM damping fluid on the voice coil, around the cone's periphery and at strategic points on its surface to further control colouration across its very wide operating band. The upper frequencies are handled by a refined version of the 25mm silk-dome used elsewhere in the range, this one fitted with a Faraday ring to improve the linearity of both its field and output at high levels. True to form, the high pass filter comprises a single high quality capacitor. And there you have the central core; a high

performance two-way with a direct-coupled midrange driver and minimal crossover to the tweeter – just like all those other two-way designs from Reference 3A we like so much.

But what makes the Grand Veena special (and it is very special) is the fact that it successfully extends the bandwidth and evenness of the concept without in any way diminishing the virtues; in fact, quite the opposite.

The twin 200mm bass drivers are again designed and built in-house, from the company's preferred woven carbon-fibre. With their own enclosure and terminals, they effectively constitute a passive sub-woofer system, matched to the midrange with the gentlest (quasi-2nd order) slope possible and with an extremely extended, mechanically controlled low-frequency roll-off. The enclosure is loaded by a large, rear-facing port tuned to 36Hz. The heavy reliance on mechanical control and the minimal cross-over also creates minimum phase shift, with less than 10 degrees of phase error across the lower frequencies – an impressive result, while pair-matched drivers ensure excellent speaker to speaker consistency.

At the other end of the spectrum (and heavily sloped front baffle) you'll find the increasing familiar gold hemisphere of a Murata 12mm ceramic super-tweeter. Much has



► been written in these pages, both about the benefits of extended high-frequencies and the importance of balancing their output at the bottom-end, so I won't repeat it all here. Needless to say, the Grand Veena achieves both goals and definitely reaps the sonic harvest.

But the really impressive thing is the attention to detail that's gone into the execution of the cabinet and other aspects of the design. The sloping baffle certainly makes for a striking, even imposing appearance, but it also creates a stiffer cabinet, with non-parallel sides. The structure itself is MDF, but opposing walls vary in thickness by around 10% in order to help minimize the material signature. Each panel then receives a layer of specifically selected bi-component acoustic felt. This layered natural/synthetic mix is highly tunable and has been developed in Canada (whence Reference 3A hail) specifically for the motor industry. A further, free mounted roll of this felt is positioned at the acoustic centre of the bass cabinet, an unusual technique but one I've seen used in other speakers that I've also enjoyed. Both the midrange and tweeter are fitted with a pair of Bibee filters, while the wiring and all the solder joints receive a coating of AVM damping fluid.

The speaker stands on three spikes, each of which screws into

a cast metal outrigger. The result is extremely stable, while the hexagon profile of the spikes and large knurled locking screws make precise angular adjustments extremely easy. The

speakers offer an overall efficiency of 90dB

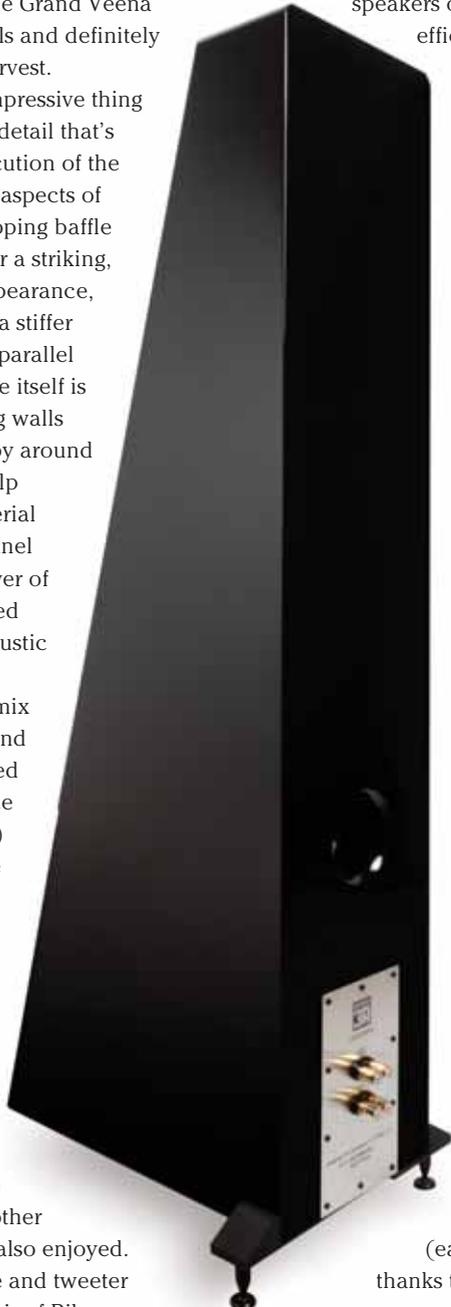
and while impedance is a low-ish 5 Ohms, it stays within ± 0.5 Ohms of this, making for a very easy drive characteristic. Set up and system matching are thus fairly straightforward, the speakers designed to work best with a three to two ratio between listening distance and spacing. Positioned thus they will require minimal if any toe-in and a dead vertical stance. If you end up sitting closer, a little extra toe-in and dropping the front of the speaker slightly

(easily achieved thanks to the spiking arrangement) will snap

the soundstage into focus. Amp matching should clearly present few problems and I achieved superb results with both the Hovland RADIA and the VAS valve mono-blocs.

However, the biggest surprise was the happy match with the 400 Watt Hovland Stratos, not something I would have predicted on paper, making this one of the most versatile speakers I've ever used. It's also one of the best value speakers I've reviewed. As I hope by now you've gathered, there's a lot of material and engineering effort gone into this design, and not a little care. The Grand Veena stands roughly four and a half feet high and each one weighs 75lbs. Anyway you look at it this is a substantial speaker. The price tag, starting at £6895 is substantial too, but given the content and versatility (not to mention the performance) they are worth every penny – and more.

However, the ease of drive and adjustment shouldn't lull you into a false sense of security. Just like the Wilson Duette, the Grand Veenas sound so good from the off it's tempting to leave well alone, but the requisite care spent on really precise adjustment of toe-in and tilt (a laser pointer is pretty much a prerequisite given the visually confusing shape of the speaker, and do not forget to compensate for rear wall spacing) will pay real dividends in terms of sound stage focus, transparency and the creation of a natural perspective. In the absence of genuinely subterranean bass, staging does tend to favour instruments over acoustic, proportion over scale, but that's to be expected. The important thing with the Grand Veenas is that the soundstage is naturally presented and believable, consistent within itself so that – vagaries of the recording aside – it doesn't bend the performers, or more importantly the relationship between them, out of shape. Work on position and toe-in until the you've got the spatial balance just so and along the way the sense of musical timing and integration ►



▶ will lock in and the performance will spring to life.

The other thing you'll notice as soon as you hook these speakers up is no shortage of

the opposite, with the Grand Veena actually building on the strengths of models like the Da Capo, extending their performance envelope up and down, dimensionally and in terms of micro-dynamic resolution.

get all the immediacy and appeal of the small speakers – but more so. You'll get a greater sense of presence, body and personality, more intimacy, space around the voice and instruments, a greater sense of life and emotional communication. Play something stellar like the direct to two-track 'Some People's Lives' from Janis Ian's *Breaking Silence* and the sense of physical presence, the natural inflexions in the vocal, the subtle shifts in the pace and phrasing conjures the sort of picture that demonstrates to unbelievers just what a good hi-fi system is capable of. The weighting of each piano note is so precise, its placement so clear that the fragile balance between lyric and the instrumental underpinning is beautifully preserved, and with it the emotional weight, the sense of sadness and loss in the song.

But what's fascinating above and beyond the superbly convincing nature of the rendition is the part played in achieving it by the frequency extremes. The melody is not bass heavy, with a sparing use of lower left hand, yet the added extension brings presence, body and harmonic substance to the piano. It adds a greater sense of space around the performer and instrument, adds a convincing solidity and stability to the picture. At the other extreme, the Murata ceramic dome operates out to well beyond audibility, but like all good super-tweeters its effects are heard right across the mid-band and bass. Yes, there's an added sense of air, transparency and focus, but the real musical impact is in the clarity and precision it brings to the music. A well-balanced super-tweeter instills a sense of order and organization, purpose and structure on the music. Suddenly there's a place for everything and everything is in that place. That's exactly what you're hearing with the Janis Ian track. ▶



apparent
bandwidth –
more than the
numbers might lead

you to expect (ever a Reference 3A trick). Their bass is quick, tuneful and powerful. The question is, has it been added at the expense of the communicative, lively and direct mid-band that makes Reference 3A's two-way designs so musically appealing? In a word, no. In fact, quite

So, play girl and guitar, be it the delicacy of Nanci Griffiths or the more driven style of a KT Tunstall and you'll

► Each note from the piano is clearly defined, its weight, placement and position in the phrase natural and predictable. It's this feeling of natural spacing and progression that makes the music so convincing and affecting, ironing out the subtle ripples in the timing that jar against our perception. No surprise then, that high-frequency extension is high on the list of high-end speaker designers' priorities. No surprise too that the excellent (if pricey) Murata dome is becoming an increasingly common sight.

But the other neat trick in the Grand Veenas' hand is the nature of the bass. They don't have a huge internal volume to play with while their basically flat impedance also limits their ultimate bass weight and extension. But, place against those limitations the benefits of building their own drivers in-house (and the control that affords over their mechanical behaviour) and the ease of drive that results from the minimal crossover this makes possible and you have the foundations for a carefully executed balancing act – one that's been judged to a 'T'. The port loading augments low-frequency output, but unlike most reflex speakers the Grand Veenas don't die away quickly, the carefully tailored driver response maintaining useful output well down into the upper 20s. Add in the ease with which the amp can get a grip on those drivers, courtesy of the lack of large crossover elements and you've got considerable punch and weight through the vital mid-bass where so much of music's drive and energy originates, underpinned by more than just a vestige of the deeper fundamentals. Just listen to Aston Barrett's joyously energetic and agile bass lines from *Babylon By Bus*, the Reference 3As endowing them with a proper propulsive energy and characteristically undulating pitch, always sure footed, tactile and weighty.

At their upper reaches, the bass drivers meet seamlessly with the midrange, neither tripping the timing nor blurring the point of transition. Reference 3A's gentle slopes certainly help smooth the journey from one unit to another, although I can't help wonder to what extent they contribute to one of the Grand Veena's few flaws, a subtle lack of texture and range to their tonal palette the further you travel from their gloriously tactile mid-band. It's a limitation that only becomes apparent compared to (far) more expensive speakers, generally those endowed with real low-frequency extension. The suppressed energy in the bowing of the extended bass passages that open the Gorecki *3rd Symphony* is less apparent, but it's a tendency that also afflicts broad swathes of both Du Pre's cello and Ricci's fiddle.

If that criticism seems somewhat equivocal it also reflects the difficulty of pinning this speaker down. Its tactile mid-band and lucid overall musical coherence mean that chasing the tendency by changing the partnering amp or source tends to draw attention to the differences between the matching equipment rather than the constants imposed by the speaker. As a failing, it's also neither intrusive nor even particularly apparent (save with reference to those much more expensive alternatives) and most owners will remain blissfully unconcerned, instead spending their time on what the Grand Veena's do best – allowing you to really connect with the music.

Reference 3A's Grand Veena will be many things to many people. It is an impressive evolution (and validation) of the company's conceptual approach, a genuine flagship. It is also an impressively neutral, tractable and versatile performer that promises to deliver its full potential in a wide variety of systems and settings. But perhaps most impressive of all is its

engaging musical enthusiasm, the effortless way it seems to pull you into music as different as Bela Fleck and Bela Bartok, Franz Schubert and Franz Ferdinand. There are two threads of authenticity running through the Grand Veena: its feel for the music and its realization of the hi-fi promise. It delivers the first by delivering on the second. You want music at home – real music? You need look no further than Reference 3A's Grand Veena. No floorstander that I've heard near the price is anywhere near as much fun. ➤

TECHNICAL SPECIFICATIONS

Type:	Three-way reflex loaded loudspeaker with super-tweeter
Driver Complement:	1x Ceramic hemisphere UHF 1x 25mm silk dome HF 1x 180mm woven carbon-fiber MF 2x 200mm woven carbon-fiber LF
Sensitivity:	90 dB
Impedance:	5 Ohms (±0.5)
Bandwidth:	36Hz - 20kHz ±3dB
Dimensions (WxHxD):	260 x 1290 x 480mm
Weight:	34kg ea.
Prices:	£6895 (wood veneer) £7495 (piano black)

UK Distributor:

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