

# Crystal Cable Arabesque Minissimo Diamond

Crystal Cable's diminutive 'arabesque' loudspeaker gains a split crossover and diamond tweeter. Is it a gem?

Review: **Nick Tate** Lab: **Keith Howard**

The best small speaker, ever.' Ah yes, *that*. There's no shortage of pretenders to this particular crown – all of which promise superlative performance with an uncannily full-range, room-filling sound. And yet nothing is immune from the laws of physics, and therein lies the problem.

You can't make a quart out of a pint pot and no compact monitor, no matter how exotic, will punch out high levels into large rooms in an effortless, uncompressed way. Nor will it offer bass that rattles the window frames in Melbourne, or wake baby kangaroos in Sydney Zoo.

## EXQUISITE LACQUERS

Instead, for a small speaker to succeed, it has to bring something else to the party. Called the Arabesque Minissimo Diamond Edition, Crystal Cable's latest miniature marvel gets off to a good start with a name that's almost longer than the speaker itself. Still, your £17,000 buys you something that's recognisably different from almost everything else around.

It has an exotically profiled cabinet that's quieter when you tap it than the sound of paint drying, an integral stand (in effect, making it a floorstander) and a specially developed SEAS diamond tweeter, complete with a laser-cut diamond lattice-effect grille that's said to be the result of complex mathematics to aid dispersion. The treble unit and a revised, split-crossover are the key differences from the Minissimo from which it's derived [HFN Apr '15], and the Mini before that.

For brevity's sake, let's call it the AMD. It's a lovely thing to behold and there's a choice of zesty paint finishes (Pearl White, Solar Orange and Aquamarine Blue) which could have come straight out of the

original Lamborghini Countach brochure from the early '70s. Our review sample looked exquisite in blue, and the clearcoat lacquered surface was excellent, devoid of any lumpy 'orange peel' effect that often afflicts this process.

The novel monocoque cabinet itself is a thin wall, one-piece metal-resin affair, and is admirably devoid of resonance. The drivers – a 25mm dome tweeter and 150mm mid/bass – sit close together, and are fed from the company's so-called 'Natural Science' crossover. This sports exotic custom-made silver-in-oil capacitors and Crystal Cable's own high-end Absolute Dream silver wiring, complete with bi-wire sets of WBT terminals.

The usual terms and conditions apply about placing this speaker a little way out from the corners of the room and away from boundary walls, but the down-firing reflex port means it can sit a little closer to the rear wall for a smidgeon more bass reinforcement should you wish it. The main issue is the 'handing' of the speakers: whether to have the narrow end of the 'apostrophe' [see pic, p49] facing outwards or inwards. There was only a very subtle change in my listening room, with a fractionally wider soundstage and narrower stage depth with the former. New owners are advised to experiment but very little toe-in was required, either way.

## LIKE AN ELECTROSTATIC

There's something distinctly different about the sound of this speaker. Completely devoid of box-boom, and with seamless

**RIGHT: 25mm diamond dome tweeter and 150mm laminated paper driver sit close together within a novel and inert apostrophe-shaped, metal-resin monocoque cabinet**



## MINIATURE FLOORSTANDER

A cursory glance at this speaker suggests that it's a bookshelf model on a rather swanky stand, but closer examination reveals that the tripod is an integral part of the design. This begs the question, why? The answer is on the speaker's underside – a bass reflex port. This fires downwards and so to sell the speaker without its legs would risk it being placed on a conventional stand or bookshelf, thus shorting the port. If the speaker has the footprint of a floorstander, then why not run the cabinet down to the floor, boosting its internal volume to improve output and bass extension? Price is a factor as a monocoque of this size would be prohibitively expensive. The small size of the existing cabinet, allied to its profile, makes for an exceptionally rigid and acoustically inert structure which sets it apart from rivals. It confers the advantages of great stiffness and sonic neutrality, traded for limited bass extension and sensitivity [see Lab Report, p49].



integration both tonally and in terms of coherence, the end result is far closer to a compact electrostatic than a conventional moving-coil box loudspeaker.

As with a 'static, the first listen is underwhelming, because all those familiar resonances are conspicuous by their absence. There's no 'boofing' noise from the port, no sweet spot around 80Hz where a bass peak has been engineered-in for extra showroom appeal. Nor is there a particular 'zing' to the treble, to pep up the proceedings.

Instead, this speaker sounds even-handed, almost to a fault, offering a seamless perspective that stretches from the bottom of the speaker's range to near the top. It's practically translucent, and opens a compelling window on the world of the recording.

Annie Lennox's superb cover of Neil Young's sublime 'Don't Let It Bring You Down' [Medusa, BMG 74321257172] is a densely compressed early '90s recording. It presents the listener with a wash of synthetic, electronic sound, over which the singer's icy voice sits in a ghostly way. Most loudspeakers settle for pushing out a big blob of synthesizers set behind Lennox's voice, but the AMD has a serious stab at taking the listener right into the recording.

It's great on the texture of the synthesizers, and gives a beautifully resolved, glinting hi-hat sound allied to the crashing snares. At the same time, instead of hearing a large but indistinct soundstage, the speaker seemingly cuts right into it, throwing out every separate element of the mix and fixing it in mid air in front of you.

While this speaker doesn't deliver the sort of vast, physical rendition of the music you'd expect from a big floorstander, it is nevertheless expansive and well able to hang images behind, or push them forward of, the plane of the speakers. It gives a very accurate, tightly controlled and highly nuanced rendition of what it's being asked to play.

**'Instruments push out wide into the room, and boast a real tactility'**

But the AMD is still a diminutive two-way speaker with a tiny internal volume and a small mid/bass driver. ABC's 'Show Me' [Lexicon Of Love, Mercury 538 250-2]

demonstrates this for its big bass line drives the song along, and while the AMD proves well able to carry the tune it is still too light and lacking in body to really convince. The speaker's excellent transient speed catches the leading edges of the bass guitar and heightens its percussive impact, but you never forget that singer Martin Fry's voice lacks body.

## SPEED AND DYNAMICS

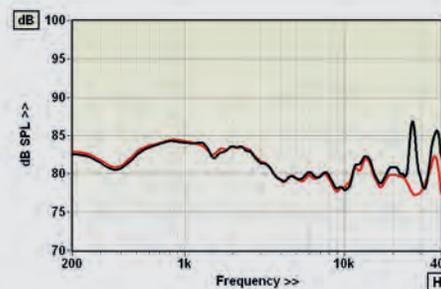
However, it's this subjective speed that saves its bacon with rock music. If anyone was going to cover Burt Bacharach's 'Walk On By' back in 1979, you wouldn't have expected it to have been Anglo-French post-punk band The Stranglers. Yet they did and it's a great song [Rarities, EMI 541 0792]. The lack of bass proved a slight, if predictable disappointment. What little low bass exists is highly enjoyable – being tuneful and fluid – but still this gritty, aggressive recording isn't helped by the AMD's lack of physicality. And yet the speaker's sheer transient speed and fine dynamics ride to the rescue, pulling

## LAB REPORT

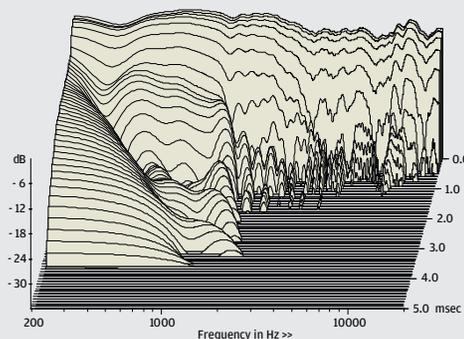
### CRYSTAL MINISSIMO DIAMOND

Crystal Cable's claim of an 85dB sensitivity for the Minissimo Diamond is, not surprisingly, optimistic. We recorded a pink noise figure of 82.0dB which is altogether more in keeping with its small internal volume. Nevertheless, this is 1.0dB more than we recorded previously with the original Minissimo [HFN Apr '15]. The upside of this low sensitivity is that the Minissimo Diamond is exceptionally easy to drive. It's rated at 8ohm nominal impedance with a minimum of 7.5ohm; we measured a dip to 7.1ohm but this is still well within the 6.4ohm limit expected of an 8ohm design. Impedance phase angles are quite large but the high modulus suffices to ensure a minimum EPDR (equivalent peak dissipation resistance) of 3.6ohm – almost 2.0 ohms higher than we typically measure. It's arguable that Crystal Cable should have traded a slightly lower impedance for its Minissimo Diamond for a higher sensitivity.

Although the frequency response errors are modest at  $\pm 3.2$ dB and  $\pm 3.4$ dB, the response traces [see Graph 1, below] show that the Diamond follows its predecessor in having a marked step-down in output at crossover to the tweeter – here by fully 4dB. So the tonal balance is certain to be biased away from a bright, analytical sound quality. Pair matching over the same frequency range was good at  $\pm 0.8$ dB and bass extension surprisingly good given the cabinet dimensions at 43Hz (–6dB re. 200Hz). But the diffraction-corrected near-field response shows that the latter is partly achieved by having a 1.5dB peak at 120Hz. As expected, ultrasonic response stretches to above 40kHz but unexpected was the high THD recorded at 10kHz. The CSD waterfall [Graph 2] shows low levels of resonance. KH



ABOVE: The Minissimo's response suggests a 'polite' treble but has good bass extension for the size



ABOVE: Fast decay, especially through the treble, while the solid cabinet seems very inert indeed

### HI-FI NEWS SPECIFICATIONS

Sensitivity (SPL/1m/2.83Vrms – Mean/IEC/Music)	80.6dB/82.0dB/82.0dB
Impedance modulus min/max (20Hz–20kHz)	7.1ohm @ 47Hz 63.9ohm @ 87Hz
Impedance phase min/max (20Hz–20kHz)	–58° @ 99Hz 54° @ 23Hz
Pair matching/Response Error (200Hz–20kHz)	$\pm 0.8$ dB / $\pm 3.2$ dB/ $\pm 3.4$ dB
LF/HF extension (–6dB ref 200Hz/10kHz)	46Hz / >40kHz/>40kHz
THD 100Hz/1kHz/10kHz (for 90dB SPL/1m)	1.3% / 0.1% / 2.9%
Dimensions (HWD, inc. stand)	960x300x250mm



**LEFT:** Despite the appearance of a standmount, the 'stand' is integral to the speaker and enables the correct operation of the downward firing port. Rear panel sports bi-wirable terminals

'blank canvas' in speaker terms, it has real appeal. The transformation wrought by switching to some classic, acoustic jazz from the 1950s was stark – breathtaking, even.

### ALL IN PROPORTION

Speakers that have their own sound always fail to signpost the dramatic differences between recordings from different eras or genres, but the AMD has no such problem. Art Pepper's wonderful reading of Cole Porter's 'You'd Be So Nice To Come Home To' [Art Pepper Meets The Rhythm Section; Contemporary Records, UCCO-9204] shows this in no uncertain terms.

The playing comes over in a wonderfully expressive way, with rich and vibrant piano, tuneful bass and lean and moody saxophone. Everything is presented in perfect proportion, the instruments pushing out wide into the room, and with a sense of tactility that would be unimaginable from lesser recordings.

The AMD's superb transient speed effortlessly relays the music's sublime syncopations and dynamics and makes for an exceptionally expressive, lyrical sound. It's a testament to this product's innate neutrality that it proves so compelling with such a diverse range of recordings – in a world where so many loudspeakers seem particularly accomplished with one genre, but not the other... ☺

### HI-FI NEWS VERDICT

I have never heard 'the best small speaker', and don't ever expect to. Yet this is certainly one of the most interesting and appealing in its own special way. It's exceptionally lithe and lyrical – just don't expect it to sing in anything but compact rooms. It's best considered for specific, near-field applications where its obvious charms come to the fore. Viewed up close, the Minissimo Diamond is a beautiful gem.

Sound Quality: 86%



the listener towards singer Hugh Cornwall's commanding vocal performance and those great, slightly Doors-y, keyboard flourishes.

The song bowls along like it's on a mission, never relenting, and the listener emerges at the other end of this seven-minute epic feeling both refreshed and uplifted. So this loudspeaker is a highly personal choice that works exceptionally well in smallish spaces, but struggles to move enough air to achieve realistic listening levels in moderate-sized rooms. It's a trade-off of sensitivity against power handling.

This may put some prospective purchasers off – it's not the box to buy should you feel the need to headbang or re-live the disco era. Yet, if you're after something of a