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Wilson Benesch Discovery II loudspeakers

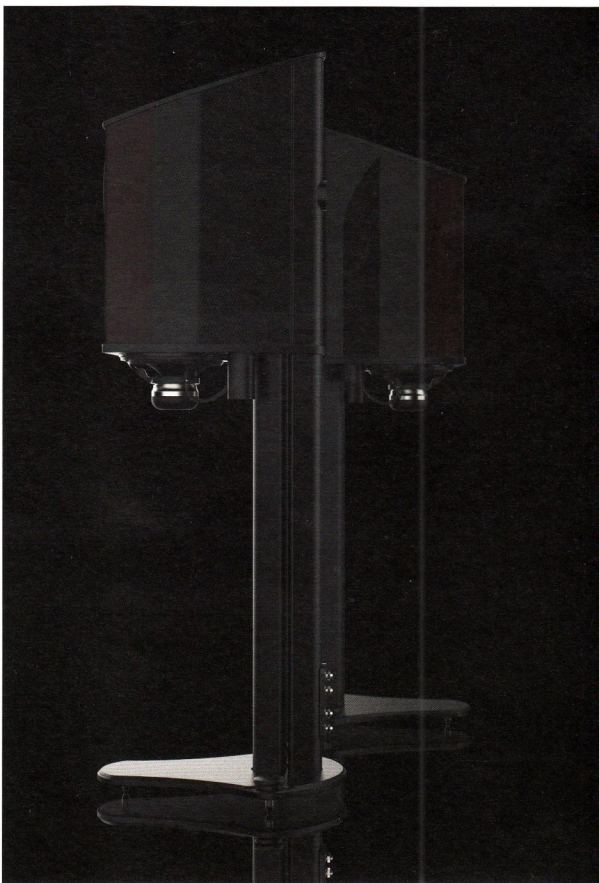
by Alan Sircom

The Wilson Benesch Discovery (from the company's discontinued Odyssey Range) was one of the most distinctive standmount loudspeakers out there, and the Discovery II shows no signs of changing that distinctiveness any day soon. In fact, I'd call this a SINO product ('standmount in name only') because that unique up-firing bass unit precludes normal standmount use.

In fairness, the bottoms-up isobaric design is now an intrinsic part of the Wilson Benesch brand, with both the original Discovery and the Endeavour using this unconventional, but effective way of making a standmount loudspeaker. Of the two, however, Discovery is the more universal design, as no matter how good the model is, there seems to be a price ceiling to absolute top end standmounts, and arguably the Endeavour stands above that point. The Discovery is in the zone, however, and the Discovery II follows suit.

A 2.5-way monitor loudspeaker, the Discovery II places the Isobaric Drive System, which uses two drivers mounted in a clamshell formation directly on the underside of the loudspeaker, in close proximity to the inverted Semisphere tweeter and the dedicated Tactic II midrange drive unit. This compact, highly optimised topology is designed to effectively squeeze a quart into a pint pot by delivering more bandwidth than is usually possible from a cabinet the size of the Discovery II.

Aesthetically, the Discovery II retains the proportions of its predecessor, but it has had something of a makeover. The classic, almost austere high-technology appearance of the



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► original loudspeaker has evolved into a more rounded piece of industrial design. Discovery II features a new machine-finished alloy baffle, that terminates at its top and bottom extent into precision engineered CNC-machined alloy plates. The brand's Geometry Series aesthetic cues are peppered through the design, but are perhaps most evident in the bevelled foot plate, which includes adjustable hand-wheels – a design common also to the A.C.T. One Evolution, Endeavour, Resolution, Cardinal, and Eminence models.

A major part of the Wilson Benesch concept is its A.C.T. Monocoque that forms much of the cabinet of the loudspeaker. This is a sophisticated composite structure comprised of carbon fibre, high compression blast core, and glass fibre. In terms of energy damping and therefore signal-to-noise ratio, the A.C.T. Monocoque is designed to exceed the performance of materials traditionally used in loudspeaker design.

Wilson Benesch has optimised the A.C.T. Monocoque by using it in a curved form. This cabinet design limits or even negates standing waves by reducing the number of flat surfaces on the on the loudspeaker interior. Any sound waves interacting with the surfaces of the A.C.T. Monocoque are diffracted across a wide angle and thus diminished.

Wilson Benesch developed the original Tactic drive drive unit around the notion that you don't hear any delays to sound when propagated live. The current Tactic II sports a light cone material, with powerful NdFeB Rare Earth Magnets, and a highly evolved motor geometry to optimise flux. In the Discovery II, three of these drive units are used, one firing directly at the listener as a mid-woofer, and two in the aforementioned isobaric chamber at the base of the cabinet itself.

Designed and manufactured in house, the company's Semisphere tweeter been developed to match the Tactic II Drive Unit. This driver uses the company's unique Silk-Carbon Hybrid Dome, which Wilson Benesch claims this retains the natural sound of a soft dome tweeter, thereby remaining free from sibilance, while the addition of carbon fibre through a proprietary technique, allows the Semisphere to remain flat through the frequency range to 30kHz.

Built around the dome is a combination of highly engineered components, which have been precision machined in-house at Wilson Benesch. At the front a curved front plate that creates what the company claims to be the ideal launch surface for high frequency sound. To the rear is a complex motor with front and rear plates that together hold a ring of six rare earth magnets. The design allows optimal venting and allows the Semisphere to remain cool during extended use.

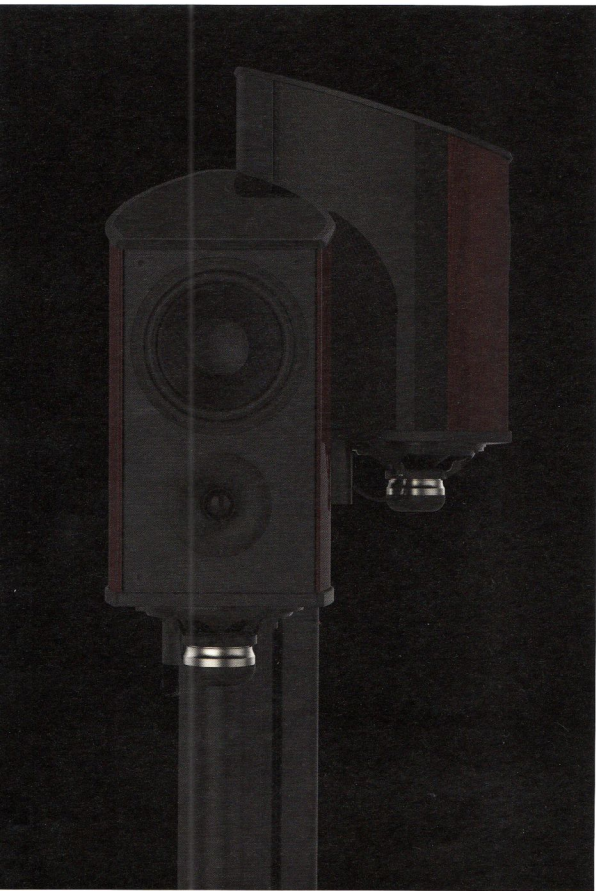
But it's the Isobaric Drive System that's the talking point because few people expect to see a driver basket on the underside of a loudspeaker. In fact it's two Tactic II drive units, which combine to create the Isobaric Drive System and deliver bass down to 38Hz in room. Although isobaric operation imposes a much higher than normal workload for the midrange units, that load is shared by two drive units working together. It effectively makes the two drive units act like one much bigger drive unit, while retaining the speed of a smaller driver in a small box, and without the attendant large cabinet or huge, slower woofer.

Isobaric loading is a relatively uncommon way of delivering deep bass due to the complexity of cabinet construction, although both Wilson Benesch and Linn Products have been supporters of this style of bass cabinet within a cabinet for some time.

Then, there are the feet! The concept behind the feet began as a tonearm! The feet share a similar concept to the kinematic bearing design in the Wilson Benesch A.C.T. One Tonearm in 1991, as both rely on kinematic coupling, which selectively eliminates each of the six degrees of mechanical freedom common to any physical body.

In the Discovery II, three 14mm steel threads, each tipped with a 6.75mm steel ball, meet with three 6.75mm steel balls, held captive inside the floor protector. This creates a triangulated structure, with a contact point of less than 1mm Sq. This provides high-integrity, stable location of the loudspeaker.

The Discovery II is somewhat demanding of set-up and accompanying electronics. This is a loudspeaker that needs to be carefully placed both in terms of speaker distance from side and rear walls, and listener height. As the tweeter is inverted and sits below the mid-bass driver, the tall stand means the tweeter is often at ear height, but a small amount of rake angle adjustment can pay dividends if you are sitting too high or too low relative to the tweeter. And, although the specifications do not imply this is a punishing load for an amplifier, it's a design that is resolving enough to need high-grade care and feeding! ►



"This is still a clean and extremely fast sound."

In fact, an absence of overhang is something of a red thread running through the performance of the Discovery II. It has a characteristically dry sound, not to the point of undermining the presentation of reverb detail, but it doesn't add thickness to that presentation either.

Wilson Benesch seemed to cross a threshold a few years ago, possibly around the time of the launch of the Tactic II drive unit. They went from being products you could like or admire without them actually grabbing you – a sort of musical technical exercise, if you like – to a sound that is more inviting and exciting. This is still a clean and extremely fast sound, but a lot of that almost sterile sound of previous models has gone away, and is replaced with sheer accuracy.

The loudspeaker is sensitive enough and accurate enough to track volume levels carefully. There is a school of thought that suggests each recording has its own 'right' volume level, and the Discovery II goes a long way to support that notion from a sonic standing. In listening to a piece of music, you'll find half a decibel either way will improve or undermine the sound, and the perfect volume level does differ from album to album.

Elsewhere, this is an incredibly detailed and accurate performer, allowing you to listen into the mix far deeper than most. So, for example check out 'The Race For Space' from the album of the same name by ambient masters Public Service Broadcasting [Test Card]. This track samples JFK's 'we go to the Moon' speech, and adds a subtle additional reverb tail at the end of each sampled sentence. On most loudspeakers, this addition is relatively subtle, but the Discovery II really lets you hear into the mix enough to hear the reverb applied every time.

▶ What Wilson Benesch has in the Discovery II is a high-end loudspeaker that doesn't need to be eight feet tall. It really does live up to its 'big speaker in a small box' reputation it has gained among serious listeners. And a lot of that comes down to that isobaric loading system, which does deliver clean, and surprisingly deep bass, and yet is almost entirely free from overhang and excess bass 'flab'.

▶ The Discovery II presents a really wide and quite deep soundstage with even some limited height information. This is the third of Wilson Benesch's seeming obsessions in music. The loudspeaker needs a space where it can breathe within the room (as in, at least a metre from rear and side walls), but in so doing, the loudspeaker excels in three-dimensional soundstages that leap out of the boxes. Once again, this 3D soundstage is characteristically dry, detailed, and possessed of great bass.

We expect small loudspeakers to be fleet of foot, but the Discovery II is a big speaker crammed into a small box. So, where we have to put up with no real deep bass in order to get that fast-paced sound (as used to be the case in the 'all pace, no bass' Linn Kan), the Discovery II manages to deliver a much deeper bass line, to the point of coping with organ notes, but does so with all the quicksilver transients of a small sealed box. And best of all, it's no smoke and mirrors trick; it does this kind of bass because of that isobaric chamber, and it does 'quick' because of those drive units.

The biggest change between Discovery and Discovery II is in the dynamic range of the speaker. Granted I'm pretty far from 'instrument rated' on the original model, but I distinctly recall hearing it and thinking it mildly undynamic. Fast, detailed, dry, and precise – yes to all those things, but not the kind of speaker that can swing wild dynamic expressions like orchestral swells well. The Discovery II is a far more dynamic-sounding loudspeaker. It's still perhaps not the Discovery II's strongest suit, but the loudspeaker is capable of both macro- and microdynamic delivery to a far greater degree. The scale of the bass depth means this is one of the smallest loudspeakers that can do justice to Mahler or Wagner in terms of orchestral scale, and that requires a significant amount of dynamic energy. The Discovery II does this well – very well, in fact – but in practice the Discovery II points the listener in different directions, and those directions are more toward detail and transparency than dynamic range.

This is not a system without criticism, although it must be said that the criticism is more to do with the nature of the Wilson Benesch sound. It's not that Wilson Benesch fails to achieve the goals it sets for itself, more that not everyone wants to follow those goals, too. That dry and detailed sound is not for everyone. Some want a more lush sound, some want their music more thick-set or bouncy, and the Discovery II will resolutely not do that. And that's OK; there is no loudspeaker panacea. I'd like to think this loudspeaker has a civilising element to sound, and there's a maturity that comes with spending time in audio and that means the Discovery II is waiting for you, but I have a suspicion that day never comes for some folk.

What is clever about the Wilson Benesch sound, however, is the company has made a speaker that is both the most and the least audiophile in approach at the same time. The audiophile who wants nothing better than to spend their hours analysing every aspect of a mix will love the detail, staging, and bass depth of the Discovery II. On the other hand, the non-audiophile who just wants to listen to the sound of a good concert on BBC Radio Three (for example) will find there is much to love about this loudspeaker. The intensity of the musical experience is captured perfectly. That, and that alone makes the Wilson Benesch Discovery II a force to be reckoned with in audio. The other aspects like detail retrieval are icing on the cake.

TECHNICAL SPECIFICATIONS

Type: 2.5 way Stand-mount

Loudspeaker

Midrange Chamber: Ported Enclosure

Isobaric Chamber: Ported Enclosure

Driver complement:

1 x 25mm Wilson Benesch

Semisphere Tweeter

1 x 170mm Wilson Benesch Tactic II

Midrange Drive Unit

2 x 170mm Wilson Benesch Tactic II

Isobaric Bass Drive Unit

Frequency Response:

38Hz–30kHz +/- 2dB

Impedance: 6Ω nominal / 4Ω minimal

Sensitivity: 89dB at 1 metre 2.83V input

Dimensions (WxHxD): 23 x 110.5 x 37cm

Weight: 30kg per loudspeaker

Finish: Black Anodised baffle, black satin, foot, base, and stand.

High gloss twill weave carbon

fibre cabinet with high gloss top.

Bespoke side cheek options

Bespoke 'P1 Coloured Carbon

Fibre' Monocoque options: Ettore

Blue, Enzo Red, Silverstone Silver

Price: £14,950 (standard finish)

Manufactured by: Wilson Benesch

URL: Wilson-Benesch.com

Tel: +44(0)114 285 2656

I'll be honest; the original Discovery was a speaker one could easily like. The Discovery II is a loudspeaker you could really love! It's sound is cool, calm, and collected and for once that is not simply a cliché. The three Wilson Benesch obsessions of driver speed, deep bass, and outstanding soundstage are played well here, and you can add exceptional detail, good vocal articulation, an overall precision to the sound, and lots of focus. Yes, it's still a clean and dry sound, but now it's dry like a martini, and there's nothing wrong with that! +