Contour

More than the sum of its parts

DYNAUDIO

Re-thought, re-designed, re-engineered, re-built

Esotar²

The sweet-toned Esotar² soft-dome tweeter has been a legend in its own right for years. It's commonly regarded as one of the world's best-ever drivers – and because it's been such a great friend to so many millions of ears (and a key part of Contours past), we just had to give it another outing.

But there's more to it than nostalgia. The simple fact is that the Esotar² is the only tweeter capable of matching the rest of the Contour's components for performance.

It's built in an extremely labour-intensive process – shaped carefully over a form into the dome shape, and then treated with a precision coating to finish. That's how our Skanderborg factory technicians, who are as meticulous as they are talented, produce its characteristically clear, detailed sound. It's a sound that you simply can't get with metal or other exotic materials. We just don't need them.

Once it's built, the tweeter's voice-coil is encased in a special magnetic ferrofluid, which works like a shock-absorber and dissipates heat to reduce stress on the moving parts. That improves power-handling, widens the frequency response and… well, now we're just boasting. What it means for you is consistent Contour quality. Just as you'd expect.

Baffle & basket

The new Contour's solid aluminium baffle is an evolution from the iron used on previous models. At first glance we think you'll agree that its curved form looks slim and elegant – which will make our lead product designer, Malte Köhn, very happy, because it's supposed to.

He spent hours making it look like that.

We spend hours on the bit you can't see

But Malte also spent just as much time on the bit you can’t see – the back. It’s not just mounted on the front of the cabinet; it’s part of the cabinet: thick, solid, robust and extremely well-damped.

Why? Because the new die-cast aluminium driver baskets are mounted directly to it to form one solid mass. That stability lets the all-new drivers do their work free of unwanted vibrations or resonances – which means the sound goes exactly where it’s supposed to: forwards.

Everything is shaped, curved and chamfered to aid the drivers: take a closer look and you’ll see how the edges of the aluminium curve gently into the wood of the cabinet. That isn’t just for show: it reduces unwanted high-frequency diffraction for clearer treble.

We even argued about whether the screws should be visible. (The ‘yes’ side won, as you can see – and even our minimalist contingent had to agree that it was the right decision.)

Cabinet

The Contour is the first-ever Dynaudio speaker to have soft edges. That's because Michael Rhode Böwadt, our brave VP of product management, took the leash off our design department: "Make the best cabinet in the world," he said. So we did.

Why the curve? Because it looks nice, for one thing. But it also serves a solid sonic purpose: its edges help reduce unwanted high-frequency diffractions for improved treble, without the need for any weird-looking fins or humps. It also improves off-axis performance – so even if you've been turfed off the sofa, it'll sound just as good off to the sides as it does out in front.

The cabinet is multi-layered for stiffness and stability. That construction, along with the new internal bracing, gives the aluminium baffle and its direct-mounted driver baskets an ideal acoustic foundation.

And yes, the cotton bag is put there on purpose.

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Each Contour cabinet takes three weeks to finish. It gets 11 coats of furniture-grade lacquer and 11 stages of meticulous polishing before we set it free into your living room.

And you don't have to worry about imperfections: our eagle-eyed specialists will strip it back and re-do the whole thing if they notice even the slightest scratch (they're really difficult to buy office furniture for).

And when you do put it in your living room, you might notice that the built-in feet feature internal, adjustable spikes. You might have carpet; you might have a hard floor. Either way, we didn't want you to have to turn the speakers on their head and fuss about with screwdrivers. Just put them down, adjust them, plug them in… and listen.

Drivers

We still love the sound of our older Contours. Who wouldn't? But materials technology, and our knowledge of acoustics and psychoacoustics, has moved on since we designed them – so when we came to the third generation Contours, we were able to use all those new skills to update and re-engineer their drivers.

We're still using the same MSP (magnesium silicate polymer) cone material we developed ourselves, but since the last Contour came out in 2003 we've discovered even more innovative ways to use it. It already gives exactly the right combination of stiffness and damping; a perfect base from which our team, led by acoustics maestro Daniel Emonts, were able to work.

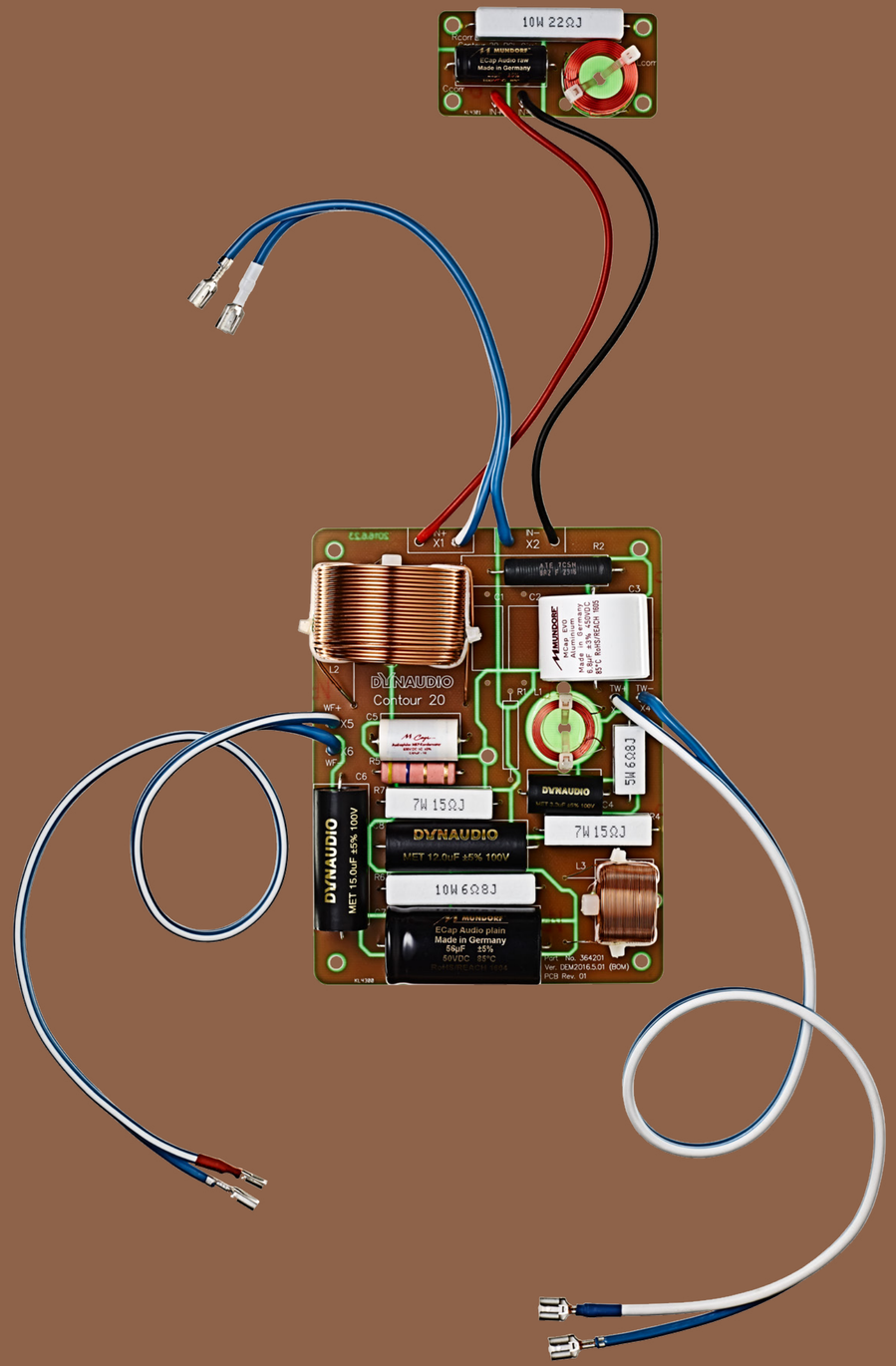
The Eureka! moment came when we started varying the material's thickness across the diaphragm's width. That gave us even more control over the way it moves – and, in turn, the sound it produces.

The result? Brand-new one-piece 18cm and 24cm extended-excursion woofers, in brand-new spiders, tailored for the Contour 20, 30, 60 and 25C. You won't find them on any other speakers..

We even created a 15cm midrange version specifically for the three-way Contour 60. Daniel didn't want to repurpose an existing midrange unit for a job it wasn't designed to do, so the team hit the drawing boards to come up with a bespoke one. They don't mess around when it comes to sound (they can even tell the difference between different types of glue… just by listening).

They've done an amazing job.

Section cut of our
brand-new spider



Crossover

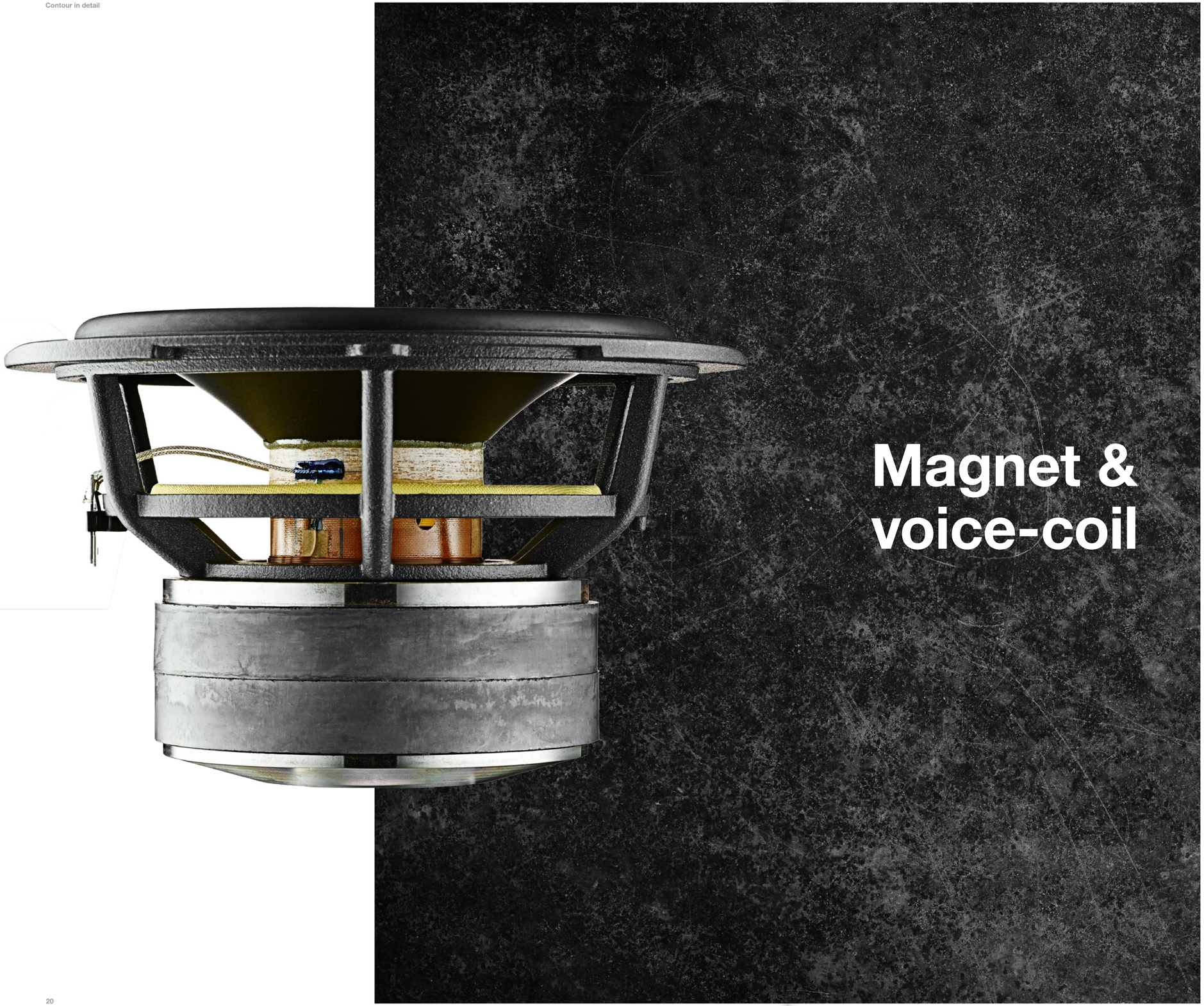
The crossover inside the speaker takes the signal from your amplifier and splits it into the frequency bands each driver needs to work at its best. After all, there's no point sending treble to woofers, and there's no point sending deep bass to the tweeter…

So while you might not see the crossover (it's lurking behind the back-plate inside the cabinet), you'll definitely hear its effect. Get it wrong and the speaker sounds wrong. Get it exactly right, and it can sound incredible.

We got it right.

We listened to old Contours for inspiration (as if we needed an excuse) and, because we're irrepressible tinkerers, decided to start from scratch. We wanted even better bass – so we redesigned the whole thing, including using ultra high-quality Mundorf resistors (which we selected by ear) and a brand-new wiring configuration, to do just that. It has new audiophile-grade copper air-coils and capacitors; a new low-resonance printed circuit-board; new WBT NextGen™ speaker terminals; a new, phase-optimised design; new overall impedance linearisation…

OK. What does all that tech-speak mean? It means now you can go even louder, and even lower, at even better quality. You're welcome.



Magnet & voice-coil

A speaker driver is, in effect, a motor. Its fuel is the signal coming from your amplifier. So, it stands to reason that because we Danes are all about fuel-efficiency and clean living, we'd apply that same thinking to our speaker drivers.

How? Big magnets. The magnet, and the coil of wire that surrounds it, is what turns the electrical energy of the input signal into the speaker cone's physical motion. A bigger magnet – and therefore a bigger voice-coil – does that more efficiently.

We made our voice-coils from aluminium, which means we can make them extremely light – and also bigger than the old-style copper ones you'll find elsewhere. Larger diameters can have more windings, which gives us more control over the cone's movement, which means more control over the sound – even at high volumes and high frequencies. That would all be far trickier with a smaller magnet.

But it wasn't just a brute-force, bigger-is-better approach. We used Finite Element Analysis to optimise our design, and also settled on an ultra-potent neodymium magnet for more power. It has a symmetrical pole-piece between two magnet rings – giving the voice-coil better precision and less time distortion. And the whole assembly is rear-vented for improved air circulation behind the cone – and to let it move more.

More movement equals more punch.

We experimented with smaller magnets and voice-coils on the Contour, of course – at sizes other companies might use. The measurements said they should work. Our ears said otherwise, so we went big. Our ears were right.

The Contour family


DYNAUDIO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Contour 20

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DYNAUDIO

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