

Manger Audio P2

With its unique Manger Sound Transducer full-range driver, this high-end floorstander is as unconventional as it looks
 Review: **David Price** Lab: **Keith Howard**

It is refreshing to see that there's still a place for purple prose in press releases. While so many documents describing new products are rather dry, German company Manger does things differently. It talks about its 'technological masterpiece' opening up 'a new horizon' and of 'goose bumps' triggering emotions and 'touching the heart'. Such flowery fluff might sail over the heads of hardened hi-fi hacks, but it's hardly necessary because the £11,429 P2 needs no hype at all. In practice, it's an intriguing, thought-provoking design featuring transducer technology that's far from run-of-the-mill.

The flagship passive model in Manger's range, this medium/large floorstanding design features the company's unique Manger Sound Transducer, or MST for short [see KH's boxout, p53]. Created by founder Josef W Manger, the MST is the beating heart of this product – something that defines its very sound.

This full-range drive unit is said to have a frequency response that extends from 80Hz-40kHz, which has real theoretical benefits because there's no need for a crossover in the 'presence' region where the ear is most sensitive. The company also claims great transient speed – a risetime of 13µsec – so many audiophiles will surely equate this with 'excellent timing'...

YOUR FLEXIBLE FRIEND

The 190mm active surface of the flexible diaphragm reduces as frequencies increase, so the effective surface area is always kept small in comparison to the wavelength radiated. Partnering up with this special drive unit is a custom-made 200mm woofer that kicks in below 340Hz, and uses a patented carbon fibre/foam membrane sandwich driver designed to combine lightness, stiffness and resonance control. Further to this, two rear-facing passive membranes of identical design are fitted, resulting in a claimed bass floor of 30Hz [but see KH's Lab Report, p53].

The 1139x270x214mm (hwd) cabinet is a large and solid affair which, thanks to its 32kg weight, sits securely upon any floor you care to park it. It's a very clean and unprepossessing looking design on the outside, but inside good use has been made of inner struts and stiffeners at defined points, says the manufacturer. The front baffle is 38mm thick, and has rounded edges claimed to minimise diffraction. At the bottom, there's a thick aluminium base that connects to the main cabinet by three sizeable allen bolts, and has mounting points for the four chunky spikes that come supplied. Thoughtfully, five soft pads are also fitted for those who don't wish to make holes in their floors.

VERY SWEET SPOT

The company says that the cabinet is available in an almost unlimited choice of finishes, including gloss or matt paint or wood veneer. At the bottom of the rear baffle [see p55], two sets of WBT NextGen speaker binding posts are fitted, towards the centre of a swish-looking anodised metal nameplate. Overall the standard of finish is very good indeed, and fully commensurate with the price.

Careful positioning of this loudspeaker is worthwhile because the Manger P2 has an easily identifiable sweet spot where everything snaps into focus from bottom to top. It's relatively easy to get this speaker into the zone, so to speak – move upwards above the plane of the MST drivers and the treble falls off, sit too far back in your seat and the bass lessens noticeably. So once you are happy the P2's bass is optimally reinforced by rear and side walls, and are experiencing that pin-sharp stereo focus, it's best to stay put because even leaning

RIGHT: Manger's 38mm-thick cabinet hosts an 8in carbon-fibre/foam sandwich bass driver (plus two 8in passive radiators to the rear) with a proprietary wide-bandwidth bending-mode mid/treble transducer [see boxout, p53]

'The brass had a satisfying rasp, yet it didn't shout'



TRAVELLING LIGHT

Broadly there are two design philosophies regarding the vibrational behaviour of moving-coil drive units. The first desires the diaphragm motion to be pistonic throughout the driver's passband, ensuring there are no in-band breakup modes to colour and smear the output. But directivity will narrow towards the upper end of the driver's working range, resulting in a different form of coloration caused by increased spectral disparity between the direct sound and the early reflections and reverberant sound in-room. To counter this, the alternative design approach arranges for the diaphragm to undergo controlled flexure, so that its effective radiating area decreases at higher frequencies, obviating the narrowing of directivity. But it is very difficult then to arrange for the bending waves travelling out from the voice coil to be completely dissipated in the diaphragm and its surround. Usually there will be some reflection – and therefore resonance. Manger attempts to get this concept to work by using a thin, flat diaphragm with a central damping structure, within the diameter of the voice coil, and external edge-damping material. It performs well – if not quite perfectly. KH

forward to scratch your knee will have things sounding slightly different.

INTO THE GROOVE

Although this speaker isn't the most impressive upon first audition, there's still something about the P2 that makes you want to keep on listening. The first few seconds will have you wondering why the bass isn't as prodigious as you'd expect from such a sizeable box. You may also think it a little lacking in sparkle and extension right at the top of the frequency range. Yet as the listening period continues, it becomes clear that actually, there's something special there.

The P2 is a fast, lithe and nimble performer, one that gets you into the groove of the music and stays there. It has real clarity and insight, connecting with the listener on that most important of levels – a musical one. 'Humans' by The Sub Ensemble [*Extensions*; Raw Canvas RCRC03] is a beautifully recorded but very modern-sounding slice of jazz/funk, driven by some lovely Fender Rhodes keyboard playing and delicious saxophone work. The production is super-clean, and quickly shows up any loudspeaker 'issues'.

The Manger P2 coped very well indeed, giving an open and tangible rendition of the instruments. Brass had a satisfying rasp, yet it didn't shout. Saxes sounded throaty and raw yet were delicately carried. The drum kit had a natural directness to it, its cymbals showing a pleasing lustre and sheen, without a hint of hardness.

Bass was fairly impressive too, but only when the aforementioned positioning issue was sorted. Herbie Hancock's 'I Have A Dream' [*The Prisoner*; Blue Note 7243 5 25649 2 7] showed this to clear effect. Sat correctly, the double-bass was supple, propulsive and bouncy. It gave a vibrant

underpinning to the main percussion work, really motoring the song along. There was very little in the way of overhang, and the low-end integrated well with the higher frequencies, giving a fairly seamless, almost electrostatic-like sound.

So the P2 is a highly able loudspeaker, but like many high-end designs focused on doing something particularly well, the P2 is not a jack of all trades. Positioning issues aside, it lacks the ability to move seriously large amounts of air around the room, and at high volumes in largish rooms, you might find it a little lightweight.

For example, 808 State's 'Ancodia' [from *808:90*; ZTT XECZ-1001-1002] is a classic piece of '90s electronica with a fulsome Roland TB303 bass synthesiser working overtime. This floorstander seemed just a little breathless when asked to reproduce this, for while it didn't betray any overt signs of distress, neither did it commit to thundering out vast tracts of bass. The track was still enjoyably animated, highly detailed across the midband and good at capturing subtle dynamic peaks, but didn't have the sheer head-banging physical presence that some might wish for.

DELICATE AND DRAMATIC

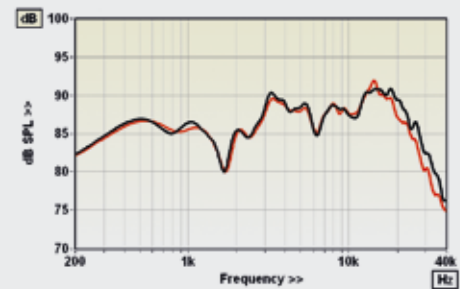
Otherwise the Manger P2's purity of tone makes flitting between recordings fun – it's starkly apparent that every album you play was recorded in a different studio with a different producer, rather than everything having a generic 'Stock, Aitken and Waterman Hit Factory' sound. So 'I Have A Dream' sounded dramatically different to 'Humans', with a far more diffuse and warm sound thanks to its 50-year-old microphones, mixers and tape recorders. Yet still you're well able to enjoy the music; I loved the delicacy that this loudspeaker was able to show here, especially in rhythmic terms. ↪

MANGER AUDIO P2

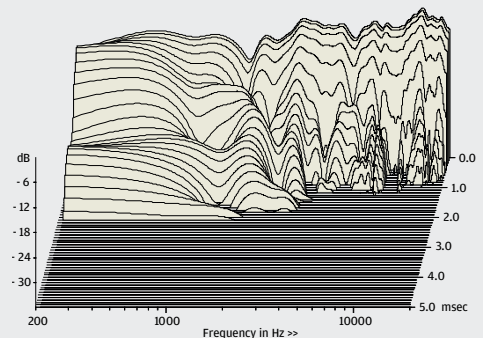
Our last experience of the Manger Sound Transducer (MST) was with the Zerobox 109 [HFN Aug '07] since which time our measurements suggest it has been improved, achieving higher sensitivity and a somewhat smoother response – although it is still far from flat. Manger claims 89dB sensitivity for the P2 but our measurements only achieve this when the FFT data is averaged, giving the P2's shelved-up treble undue influence. Adjusted to pink noise, the sensitivity drops to 87.1dB.

The claimed 8ohm nominal impedance is also a little optimistic for we measured a minimum modulus of 4.1ohm and low-frequency phase angles sufficiently large that its EPDR (equivalent peak dissipation resistance) drops to twin lows of 2.4ohm at 76Hz and 116Hz. So while not a notably difficult load to drive, the P2 is not as benign as its specification suggests.

Forward frequency response [Graph 1, below], measured at 1m on the MST's axis, is characterised by the aforementioned treble shelf and narrow notches at about 1.7kHz and 7kHz which suggest resonances. (Ignore the roll-off below 400Hz which is a measurement artefact.) Together these features make for high response errors of ± 5.4 dB and ± 6.0 dB respectively to 20kHz, and a pair matching error also on the high side at ± 1.7 dB, although up to 12kHz it was better at ± 1.0 dB. Our diffraction-corrected nearfield bass measurement recorded an early if gradual roll-off below 130Hz reaching a mere 85Hz (-6dB re. 200Hz) but this can be bettered in practice by careful placement relative to room boundaries. Given the uneven frequency response, the cumulative spectral decay waterfall [Graph 2] is unexpectedly clean, with fast decay of the expected resonances. KH



ABOVE: Resonances in MST driver may be the cause of the notches at 1.7kHz/7kHz. Note diminished treble



ABOVE: Cabinet and, in particular, driver resonances are surprisingly well-damped given the uneven response

LEFT: The two 8in ABRs are mounted inside the sealed cabinet while the split crossover facilitates bi-wiring/amping via WBT NextGen terminals. The speaker's aluminium base improves stability

listen. Having witnessed this ballet live at Beijing's National Centre for the Performing Arts, I was delighted with the accuracy of the imaging and depth perspective on show – very close to the real thing.

It's a bright and stark recording that loses just a little of the concert hall's warmth but it didn't grate via the P2. Indeed the kettle drums and brass stabs emerged from an inky-black silence, precisely positioned in space. There was a decent sense of front-to-back depth too.

ALL THE WAY TO 11

Indeed, this is one its strengths – though you'll need to be generous with the volume to really get the Manger P2 fully out of its shell. At lower levels, 'Sputnik' from Public Service Broadcasting [The Race For Space; Test Card Recordings TCRCDA02] was a little spatially constrained, but things certainly picked up as the volume went north.

This done, I heard a broad and expansive sound that – if not quite cathedral-like – had a good long reach. Inside this, elements of the mix were tightly positioned yet given room to breath without being smothered by other strands. Move off axis though, and the subtle sheen that shines a gentle extra light on the upper midband falls away and things can sound slightly duller and more diffuse. With the Manger P2 it's all about the sweet spot. ☺

HI-FI NEWS VERDICT

The joy of expensive loudspeakers is that designers have far more scope to focus on what they consider to be important. The engineers responsible for the Manger P2 have blended a mix of the novel with the conventional to deliver a sound that's far from ordinary – clean and even over a wide range, it has a fast, lithe sound at the expense of outright bass weight. If that's your thing, then the P2 will be a must-hear.

Sound Quality: 84%



The counterpoint between the drummer's rim-shots and hi-hat strikes created an infectious supple feel to the song, and this syncopated beautifully with the louche piano work. This speaker is great at capturing subtle rhythmic accenting and I found myself focusing in on individual instruments and following them as if they were performing their own little solos within the mix.

The exquisite opera 'Light The Red Lantern' by the Symphony Orchestra of the China National Ballet [Raise The Red Lantern; EMI M-4018-2L], proved a fascinating

HI-FI NEWS SPECIFICATIONS

Sensitivity (SPL/1m/2.83V – Mean/IEC/Music)	88.8dB / 87.1dB / 87.0dB
Impedance modulus: minimum & maximum (20Hz–20kHz)	4.1ohm @ 140Hz 33.9ohm @ 39Hz
Impedance phase: minimum & maximum (20Hz–20kHz)	-60° @ 52Hz 32° @ 261Hz
Pair matching/Resp. error (200Hz–20kHz)	± 1.7 dB / ± 5.4 dB/ ± 6.0 dB
LF/HF extension (-6dB ref 200Hz/10kHz)	83Hz / 31.6kHz/28.2kHz
THD 100Hz/1kHz/10kHz (for 90dB SPL/1m)	0.4% / 0.3% / 0.3%
Dimensions (HWD) / Weight (each)	1139x270x214mm / 32kg