



## Smart moves

Minitest: in-ear headphones  
for music on the go **p84**

## Hi-res portable

**Astell&Kern AK120: 24/192  
& DSD audio for your pocket**



# Hi-Fi Choice

**PASSION FOR SOUND**

Issue No. **375** September 2013

## Terrific Tannoy

Luxury floorstanders  
with sensational sonics



## Linn Sneaky

Petite all-in-one streamer and  
integrated amp with huge sound

# 33

products on test from  
Epos, Onkyo and Pure  
through to Teac...

**CRYSTAL  
ACOUSTICS**  
Cut-price  
Bluetooth  
streaming  
DAC

**GROUP TEST**

## Needle craft

Six affordable cartridges  
to upgrade your vinyl



## BEAUTIFUL SYSTEM

47 Lab: hi-fi for  
cubist art fans



## Mini maestro

Stunning Panasonic micro system  
with streaming, iDock, CD & DAB tuner

SEPTEMBER 2013  
9 770955 111090  
PRINTED IN THE UK  
£3.99  
US\$9.99



**IN-DEPTH** TANNOY PRECISION 6.2  
FLOORSTANDING LOUDSPEAKER £1,699





# Automatic focus

Tannoy's Precision 6.2 floorstander boasts a soundstage that its rivals just can't match, at least that's what **David Price** reckons...

**I**t's not as if the world really needs another floorstanding loudspeaker. We've got plenty enough already, thanks very much. So, when looking at something like this new Tannoy, the first thing that springs to mind is, "does it bring anything new to the party?" In the case of a great many such products, the answer would be a deafening, "no" – but Tannoys being Tannoys, you can at least be sure of an interesting listening experience courtesy of its unique Dual Concentric drive units.

Let's not underestimate the effect that drivers have on loudspeakers. It's easy to assume that – because they're the obvious, big things that meet the eye – cabinets are the be all and end all of speaker sound, but of course they'll never be able to redeem the product from having bad drivers in the first place. Tannoy's drive units are always good, and always different to everyone else's – so the Precision 6.2s come with a good start in life.

## Their key strength is the size of the soundstage – which is cathedral-like

The speaker you see here sports a new version of the famed Dual Concentric drive unit, so-called because it has a driver within a driver; basically the tweeter is set inside the cone of the larger mid/bass drive unit. It's a clever wheeze, which is why Tannoy patented it and therefore nobody else offers precisely the same arrangement, and brings excellent phase coherence. In human language, this means the high frequency sound emerges from the same 'point source' as the rest of the range, at very-close-to the same time. Contrast this to a conventional

tweeter and woofer, set some 10cm or so apart, and you can literally hear the difference – things seem more 'all of a piece', and the music images better in space.

Many may have been familiar with the Dual Concentric concept for a long period of time – the company has been making such speakers for longer than most, after all, and the original Monitor Black sported a Dual Concentric driver first developed and patented by Tannoy's Chief Engineer, Ronnie H Rackham in 1947. But this isn't to say that the drivers used in the Precision 6.2s are in any way vintage pieces. The company's speaker design supremo, Dr Paul Mills, is keen to stress that the technology has advanced considerably over the years, with new materials, new designs and the development of bespoke manufacturing processes. He also points out that these days, the designs benefit from advanced computer aided design and software modelling – traditional values in a modern setting if you like!

The actual tweeter fitted is what Tannoy calls its 'WideBand' design, a 25mm titanium dome affair with the company's Tulip WaveGuide that extends above a claimed 30kHz, way above human hearing. The company says that a high-frequency unit that's

### DETAILS

**PRODUCT**  
Tannoy Precision 6.2

**ORIGIN**  
UK

**TYPE**  
Floorstanding loudspeaker

**WEIGHT**  
18.4kg

**DIMENSIONS**  
(WxHxD)  
310 x 1,000 x 283mm

**FEATURES**

- Quoted power handling: 350W
- Quoted frequency response: 34Hz – 35kHz (-6dB)
- 1x Dual Concentric array with 25mm dome tweeter and 150mm midrange driver
- 1x 150mm bass driver

**DISTRIBUTOR**  
Tannoy Ltd

**TELEPHONE**  
01236 420199

**WEBSITE**  
tannoy.com

built to reproduce extremely high frequencies is far less stressed by audio band reproduction than a tweeter that is near its limits at 20kHz. At 1.6kHz, this mates to the main 150mm midrange driver within the one Dual Concentric array, and the latter is made from a treated paper pulp material with a rubber surround, with a 44mm edge-wound voice coil. This then hooks up with an additional 150mm dedicated bass driver at 170Hz, which bolsters the lower bass. Low-loss laminated core inductors and audiophile-grade polypropylene capacitors are used, with components hard wired onto a rigid mounting board. Silver-plated, high-purity oxygen-free copper wiring is also featured – a sensible measure as this can have a big effect on sound.

The cabinet is, of course, mission-critical in getting a good sound, too. To wit, the Precision 6.2 gets some classically finished woodwork, with flat front and rear baffles hooking up to curved side panels. Tannoy claims this reduces internal reflections and braces the cabinet structure. This is an unusual take; although I've detected a move back to 'flat' sides, the speakers that have curved cabs usually don't have a flat back baffle. The good Dr Mills says this is because it eliminates the inherent instability of a 'three cornered' design when using "compact (for Tannoy at least)" 150mm drivers. All is made from heavy fibreboard, and there's a small Mass Loading Cavity (MLC) for fine tuning of the bass. By filling or part filling the sealed cavity with what Tannoy calls "dry mineral aggregates" (sand) you can balance the speaker up to your room better, which is a nice feature. A reflex port sits surreptitiously behind.

There's a choice of satin dark walnut, high gloss dark walnut and high gloss black cabinet finishes, ▶



The Tannoys sport high quality plinths with adjustable spikes, plus spike cups for those not wishing to make their wooden floors look like the lunar surface. This particular design is done very well and makes levelling easy, which – along with the correct toe-in – is important for getting the stereo image to snap into focus.



and they're done very nicely indeed. Dark-weave grilles are supplied sub-surface magnetic fixings, so there are no ugly mounting recesses, and the speaker drivers are tipped off with aluminium trim rings for the subtlest touch of bling. The speakers are supplied with custom plinths and floor spikes with easy thumbwheel locking. Thoughtfully, dedicated spike cups are supplied to protect floors.

### Sound quality

There's nothing quite like the sound of a Tannoy Dual Concentric. I've reviewed ten or so over the past 20 years, at differing price points and widely varying shapes and sizes, and they all have that distinctive sound that – for better or for worse, depending on your point of view – marks them out from their price rivals. What you get is a wonderfully spacious soundstage, one that's more Albert Hall than Albert Square in its general scale!

Listening to the Precision 6.2s, you wonder how so many other loudspeakers manage to make it look so difficult. After all, punch 10W or so (which is all a listening room usually requires) into any £1,000+ speakers and surely your room should fill with music! It certainly does with these Tannoys, and tweaking them is a simple case of toeing them in so instruments in the mix lock into the right position, and getting their distance from the rear wall right. In my largish room, they work best some 40cm or so out.

This done, they're ready to sing. Sand-loading the cabinet recesses will tighten up the bass slightly and give

marginally superior focus, but the main choice is with or without grilles. I find the high treble just a touch too recessed with the grilles on, although there's no denying that the lower treble and upper mid is quite lively. I wouldn't call it harsh, but it certainly makes its presence felt in a way a more balanced floorstander such as the Spondor D7 doesn't. Freeez's *Mariposa* is a lovely summery-sounding track, and a relatively unprocessed one – this early Beggar's Banquet recording didn't have a ham-fisted producer fiddling with the faders, so it's pretty even – but the Tannoys certainly liven it up a bit, and make it bright and breezy fun.

### A great addition to the swelling ranks of £2,000 floorstanders

These speakers image wide and tall, in the mode of a MartinLogan (although they don't quite scale their dizzy heights), and set up a clean and open soundstage across the midband. I love the way the music integrates so well, appearing to come from a single point source (for indeed that is what happens). It's so much easier on the ear, and the brain doesn't have to do any rebalancing or phase compensation on the fly. That's why – despite being a little bright – they're pretty easy to listen to. This holds for the rhythms as well, which come over in a wonderfully explicit way on Alex



The princely sum of £2,300 buys you a pair of Monitor Audio's GX200 loudspeakers – a bit pricier than the Tannoys, but you need to spend a bit more than their sticker price to find something that gives them a run for their money. And indeed the GX200s do; they're immaculately finished, better than the Tannoys, and sport some very high-quality drive units including a ribbon tweeter. This – along with the C-CAM drivers gives the GX200 a very open, detailed, clear and precise sound with a lovely spacious treble; much better than the Precision 6.2. By the same token, however, the Tannoys' Dual Concentric driver gives a wider and more spacious sound than the Monitor Audios. It's a little looser and less incisive, but way more expansive.

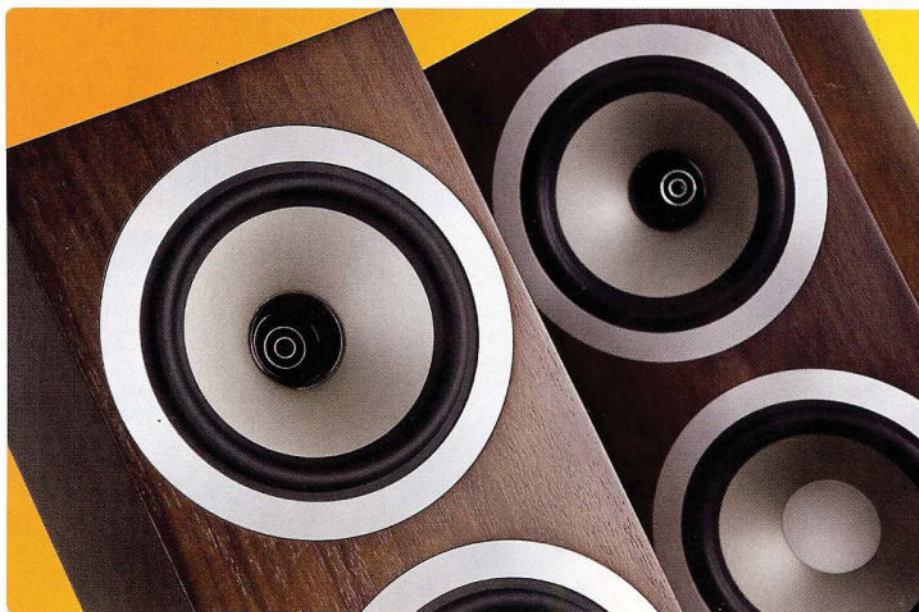
**Tannoy Dual Concentric drive units have come a very long way since the first 1947 examples!**

Reece's *Feel the Sunshine*. Even with the grilles off, and that high treble liberated just a touch, I still sense a slight lack of atmosphere to the decay on the hi-hat; not bad but others do better. Yet that doesn't stop the tweeter capturing the leading edges of the hi-hat strikes well, and powering them along nicely.

As well as sounding fast and lithe, these speakers seem really rather good at carrying the music's phrasing – it is as if they are trying especially hard to signpost the accenting every fourth phrase, and this makes for a very musically coherent rendition. Things seem to have a purpose and a trajectory; the music is busy and detailed yet doesn't come over as choppy or confused. Rather, the Tannoys communicate the overall musical picture in a well controlled and structured way – it is easy to listen to, yet exciting and enjoyable.

One thing that the Alex Reece track also reveals is the bass performance, which to my ears isn't quite so polished. The cabinets appear to advertise their presence ever so slightly with just the teensiest bit of overhang. The Precision 6.2s are fast and pacy, but there's definitely the sense that you can hear the cabinets in a way that you don't from Monitor Audio's (slightly pricier) GX200s. Mass loading and careful positioning helps to alleviate this somewhat, but unfortunately doesn't eliminate it completely. For this reason, a nice taut-sounding solid-state amplifier is an essential companion to the Precision 6.2s, and I certainly don't get the sense that they'd be naturally synergistic partners to tube amplifiers with their somewhat underdamped bass response.

Cueing up some classical music in the shape of my favourite Deutsche Grammophon/Karajan recording of Beethoven's *Pastoral Symphony* shows the Tannoys to be a little tonally coloured, but in a nice, smooth, euphonic sort of way. As you might expect at the price, they don't give you an electrostatic-like 'clean window on the world', so one recording sounds a little closer texturally to another than perhaps it should. Classical music fans might tut-tut at this, but they'll certainly be enamoured by the world-class soundstaging and pin-point image location; instruments appear to hover in space effortlessly. The other plus-point about the Dual Concentrics with classical music is the good sense of integration between midband and treble, although the more intense parts of the Beethoven piece do show





## IN SIGHT



## ON TEST

Tannoy claims 89dB sensitivity for the Precision 6.2, confirmed by our pink noise figure of 89.6dB. An 8ohms nominal impedance should mean minimum impedance no lower than 6.4ohms, but the 6.2 dips to 3.1ohms at 114Hz, making a 4ohms rating more realistic. Impedance phase angles are high enough to reduce EPDR to a minimum of 1.7ohms at 102Hz, so the 6.2 is a moderately challenging load to drive. On-axis frequency response

shows a step-up in output of about 2dB above 700Hz and a narrow notch at 10kHz, the latter principally responsible for high-ish response errors, 200Hz to 20kHz, of  $\pm 5.8$ dB and  $\pm 5.6$ dB respectively. Pair matching error was high, too at  $\pm 2.2$ dB but the largest disparities occur above 10kHz. The cumulative spectra decay waterfall indicates well controlled resonance up to 3kHz, above which a series of high-Q breakup modes spoil the picture. **KH**

that the low bass isn't quite as linear, with the speakers sounding slightly lumpy in the low registers, and a little light in the very low ones.

## Conclusion

The key strength of the Precision 6.2s is the size and height of the soundstage – which is cathedral-like in its expanse. They also romp along with a decent rhythm and make listening to any type of music enormous fun. Generally – that slight cabinet overhang notwithstanding – they're well integrated and the music just seems to pour out into the room in a remarkably easy way. All of this means you're less likely to notice their slight midband colouration, and the sense that the bass isn't quite as together as the midband and treble. Still, they go loud with little complaint, go down low and will never underwhelm you with the

visceral impact they can deliver from relatively small boxes of less than 30-litre cabinet volume. They're a great addition to the swelling ranks of £2,000 floorstanders then, offering a big sound that many will love. You get an awfully enjoyable loudspeaker for the money ●

## Hi-Fi Choice

## OUR VERDICT

## SOUND QUALITY



## VALUE FOR MONEY



## BUILD QUALITY



## EASE OF DRIVE



## OVERALL



**LIKE:** Fantastic soundstaging; musically satisfying; rhythmically coherent

**DISLIKE:** Veiled upper treble; lumpy lower bass with slight cabinet overhang

**WE SAY:** Great fun to hear, but not the most forensic around

## Q&amp;A

## Dr Paul Mills

Chief designer, Tannoy



**DP: Where does the Precision series sit in Tannoy's range?**

**PM:** It is a mid-market speaker marking the transition between our affordable Revolution range and the much larger and more affluent Definition series. The cosmetics are contemporary, with a small footprint, curves, plinths, seamless aluminium trim and luxury finishes. We are aiming at audiophiles looking for a modern take on the Tannoy Dual Concentric sound.

**What's new about the Precision 6.2's Dual Concentric unit?**

It is an evolution of the units designed for the outgoing Revolution Signature series. The driver uses a double magnet motor system for increased magnetic flux over the entire range of coil excursion, which results in tighter bass response and increased power handling. We have modified the paper pulp compound mix on the bass driver in tune with the dual magnet system and higher magnet charge and used a natural rubber roll surround. This gives a more natural presentation through the presence band and works extremely well on the ABRs used in the 6.4 model. The 1in titanium dome and Tulip Waveguide are essentially the same design as found in the Revolution Signature models although new manufacturing processes mean even higher tolerances.

**Why is 'treated paper pulp' chosen for the mid/bass cone (s)?**

We have always used paper on our flagship Prestige products, indeed since 1947 with the first Monitor Black Dual Concentric driver. In the eighties vacuum formed polypropylene was often used as being more cost-effective. In the late nineties, new manufacturing methods meant paper could be considered for more mass market products so we began to integrate paper construction cones in new evolutions of the DC driver lower down the Tannoy range. We find paper based cones have better self damping properties and sound more natural.