



Dual

Tannoy's updated Dual Concentric DC8T loudspeaker split opinion in World Towers. Noel Keywood loved it; Rafael Todes wasn't so sure!

Tannoy loudspeakers are great fun and impressively accurate, by design – and I like this. All the same, I had some reservations about the upmarket £4000 DC8T I reviewed in our July 2009 issue, ones that weren't apparent in the larger but otherwise similar DC10T reviewed later in our November 2010 issue. Following my comments and those of their Japanese distributor, Tannoy decided to tweak the DC8T to rid it of an obvious deficiency, a small midrange suck-out identified in our measurements that made it sound soft; it was too laid back even for my tastes. This short review is an update on the DC8T that, I feel, is one of the market's more interesting loudspeakers.

I thought reviewer and classical violinist Rafael Todes might like its qualities too – but he didn't! You can read what he thought of them too.

Here's a quick resume of the Definition DC8T. It is a one metre tall floorstander that incorporates the best Tannoy technology in a beautifully made and finished domestically acceptable loudspeaker. By this I mean it uses their Dual-Concentric drive unit, but it isn't part of their Prestige range, where size plays second fiddle to performance and Pickfords deliver. The DC8T is man handle-able and you could substitute 'woman' for 'man' since it is no macho lift, weighing 21 kgs (76lbs). Tall and slim, the original wasn't so stable, so Tannoy have now fitted a plinth to widen its footprint. The lacquered wood veneer used is lovely to look at and touch and helps make this Definition look classy. Tannoy's trims are tasteful too and at the rear sits a bi-wire connecting panel with green earth terminal that earths all internal metalwork, something that technically makes sense as there are a lot of coils of wire inside, able to pick up Radio Frequency (RF) signals and earthing chassis work should help prevent this.

Opinion

The entire frequency range is handled by a modern Dual Concentric drive unit incorporating a horn loaded 25mm titanium dome tweeter firing out through the centre of the 8in bass/midrange cone. This cone uses a treated paper pulp cone with rubber edge surround and is has the damped, dull 'thwack', when struck with the finger, of a well damped polymer cone; there's none of the 'ring' of a metal cone. I make this point deliberately – more later!

Bass from the Dual Concentric drive unit is augmented by an 8in bass unit sitting below it, both units being reflex loaded by a rear port. Tannoy don't make loudspeakers lacking bass and the DC8T is no exception. Aware that it may over-excite some rooms they provide foam bungs that, we found from measurement and listening, audibly reduce subsonic output below 40Hz. Tannoy's foam bungs were more needed than those of most loudspeakers, because this loudspeaker is capable of very heavy subsonics; it runs almost flat down to 20Hz. Sounds good if you are a bass freak – and I like to feel the room move! – but it can really set some rooms off badly, according to their dimensions, so the bungs are quite important. Because our listening room has a main mode at 24Hz, below the lower limit of most loudspeakers but not the DC8Ts, the bungs were pushed in and out quite a lot in our attempts to maintain a sense of balance. It provoked our room strongly at a very low 24Hz and this did at times border on excessive.

There are a few interesting technical features of this loudspeaker. The tweeter reaches an octave lower than most, doubling wavelength at crossover. This improves phase matching and off-axis dispersion and is, I found when dealing with this whilst designing World Audio Design loudspeakers, an important point. At 3kHz a half-wavelength is just 55mm, making random mechanical phase error due to drive unit spacing of a

distant tweeter significant. With the Dual Concentric this extends to an easier to cope with 110mm.

Also, the tweeter is brought closer to the bass/midrange cone apex that radiates at high frequencies, than is possible in loudspeakers with separate tweeters, again improving phase matching. These twin benefits together result in a more solid sound to instruments like violin in particular, an instrument that suffers both from amplitude and phase variation of other loudspeakers, making it sound vague and hazy in embodiment and uneven in power.

Capitalising on this Tannoy have steadily flattened and smoothed the amplitude response of their pressure loaded tweeter, by use of a Tulip waveguide. By any standards the DC8T measures very flat to 20kHz as modern loudspeakers go. But as most loudspeakers these days have raised midband and treble output, the Tannoy sounds – shall we say – less bright. Add in the fact that it throws less treble energy at walls and ceiling, and overall it comes across as warm



unit. All these reproduce real detail whilst retaining tonal accuracy and demonstrate what is possible. All put more treble energy into a room than a Tannoy Dual Concentric so all have a brighter demeanour. So whilst the DC8Ts measure flat to 20kHz and are accurate, they seem very mild, even warm and rich, or 'chocolatey'.

"it is the sort of unforced insight you get from high quality electrostatic panels"

or, as Rafael says, "chocolatey".

Fair enough, but to me, as an engineer and long term listener, I prefer this form of accuracy than the shriek (as I hear it) of most loudspeakers that have been made quite deliberately bright by their designers (or sales team) to compete in a showroom, where they will appear detailed and insightful. This isn't a good loudspeaker, it is a contrived loudspeaker.

A truly good loudspeaker will sound fabulously detailed whilst also tonally balanced and here we turn to Quad electrostatics, notably the One Thing Audio ESL-57 revamp, a Martin Logan X-Stat panel or an Eminent Technology magnetic planar drive

unit. It is the nature of a horn: they throw acoustic energy in one direction, in this case at the listener, but not at walls and ceiling.

I can live with this; I find it mild and relaxing. But there is much more to a Tannoy's sound than this.

SOUND QUALITY

It was immediately obvious that the revised DC8T has more midrange bite than the one we reviewed in July 09 issue. This made vocals more concise and raised intelligibility. From Sade through to Duffy, via Renee Fleming (!) I could more easily catch every word.

After initial orientation had shown me the DC8T is bolder

than before and I was happy with the new balance, it was time to dig a little deeper. Would the new balance detract from the Tannoy's ability to play Duffy's 'Rockferry', a very difficult track that contains deliberately added digital distortion, or "graunch" as the recording engineer explained in an interview. Loudspeakers with raised treble from metal dome tweeters make this track unlistenable, but Tannoy's DC10T handled it adeptly – and so did the updated DC8T I found. Duffy was still firmly placed centre stage, but a little more forward than before, whilst the accompanying 'orchestra' was bearable.

The loudspeaker's midrange/treble horn measured more smoothly than the earlier one and it sounds it too. 'Syrup and honey' has Duffy at the microphone with little accompaniment, demonstrating her fascinating natural tremolo and this track is another make or break for me: it is a live vocal with surrounding studio atmosphere, such as that is, and can sound extraordinary through a revealing loudspeaker, but quite flat and artificial though an average one. The DC8T handled the track beautifully, placing Duffy firmly in front of me, her initial intake of breath, voice control and projective power all delivered evenly and with great insight. This was no gloss over, but a real good look right into what was happening during the take – and I quite simply loved it. The only small query that popped up was why high treble sounded a little absent, making for a sense of warmth.

Spinning Amy Winehouse's 'Rehab' again showed how focussed and forceful the Tannoy pressure horn is. This is a loudspeaker that pushes out the midrange as if from a high pressure fire hose. Where other loudspeakers paint up the sound in front of you the Tannoys throw it toward you: projective is the word here – like no other! Not everyone likes the effect, but I love it. It pumps up the dynamic life of a track, by going from soft to loud with an alacrity that is rare in loudspeakers.

In true Tannoy fashion the DC8Ts have a silky smooth balance but with Rock they come at you. In other words, Rock rocks! You get the full force of a performance thrown straight at you; there's nothing laid back about a Tannoy. Yet whilst I say that, they do not have ringing upper treble or artificial detail. Cryogenic crossover treatment gives these Definition loudspeakers great insight, but it is the sort of unforced insight you get from high quality electrostatic panels such as Martin Logan's

X-Stat panel, or Eminent Technology's magnetic planar drive units. Tannoys don't have quite their level of ability – no ordinary loudspeaker does in spite of their manufacturer's hyperbole – but the DC8Ts got convincingly close. Rim shots fired out from centre stage with such force yet solidity, it was a fright.

Solidity? Yes, another strength of Tannoy's central horn is that it



runs from 1kHz all the way up to 20kHz, meaning the DC8T lacks the phase and amplitude problems of most other loudspeakers – and I can hear it is a smooth, yet solid portrayal of rim shots, cymbals and, most importantly, violins. As Amy Winehouse's 'Back to Black', slowed to a funereal pace, instruments across the sound stage were solidly wrought in a way other loudspeakers rarely manage.

There were times when I became aware of a slight cuppiness and all these effects were apparent with the gravelly vocals of Willy De Ville singing 'Spanish Harlem'. Accompanying piano had a sense of scale and body that was lovely, helped by this loudspeaker's forceful

dynamics. A live recording, there were yelps from the audience, applause and all those noises off that live suffers / enjoys – and the DC8Ts made them all convincing.

Elvis singing 'Fever' again had the Tannoys sounding warm and full bodied, but very close and insightful. Hand drums and finger snaps were clear as a bell and punched out. The laconic acoustic bass line sounded rich and full, but was easily expressed: the DC8Ts deliver big bass, if not as excessive as the DC10Ts. I ran them with bungs out to get subsonics – and with Lady Gaga's Monster boy did I get them. These loudspeakers get down to 20Hz with ease, mainly from the port, and deep synth effects had the settee trembling beneath me as waves of sub-bass rippled across our listening room. Better, these lows are very well controlled, stopping and starting clearly. Drum strikes at the start of Angelique Kidjo's 'Agolo' underscored this point, sounding full and powerful, yet with clear temporal form.

Bass in general could be described as fulsome and soft; the ports pump out a lot of subsonic info and this makes for a weighty low end that can sound over inflated. The foam bungs supplied suppress this, lowering subsonic power whilst little affecting ordinary bass levels.

After Rafael pointed out that these Tannoys don't do orchestral depth I take his point. I find them clear, informative and wonderful in left and right imaging, giving the Royal Philharmonic both force and scale playing Tchaikovsky's 'March Slave'; timpani nearly had me over the back of the settee and pipes trilled from left and right in convincing fashion. But Rafael pointed out that the orchestra is not layered backward in a stage possessing discernible depth. Since he has plenty of experience sitting in an orchestra – and I have not! – I take his point, although miking techniques may come in this.

With the piano of Arcadi Volodos



RAFAEL TODES SAYS

Listening to Nigel Kennedy playing 'Spring' from the Four Seasons, the soundstage was more forward than I'm used to on my B&W 802Ds, it was fairly shallow, but immediate. The solo fiddle did sound really solid, none of the falling between two drive unit problems that can plague other speakers for violin reproduction.

With the forces of a chamber orchestra, I didn't feel outstanding separation between the different sections of the orchestra; the overall effect was generous, but a bit blurred in terms of image.

There was no signs of harshness or shrieking, the sound being very mellow and chocolate-like. I noticed that the speaker performed very well at low listening volumes. It also had the ability to function well when the volume levels were cranked up.

Renée Flemming's dulcet tones came across in a less fulsome way than I would have liked, possibly due to the "cupped" nature of the tweeter, as if a part of her spectrum was missing.

Another curiosity that I noticed was listening to Volodos playing Liszt. The left hand of the piano appeared to be spatially recessed compared to the slightly forward right hand covering the higher frequencies – an oddity.

Overall, the Tannoy DC8T is fairly easy to live with, pleasant sounding, and is highly capable, but it didn't get everything right.

though there was no such limitation; quite the reverse, the Tannoys reproduced its scale and its power, as well as the surrounding acoustic picked up by the microphone. But lower notes (left hand) from the bass cone were more recessed than upper ones (right hand) from the tweeter Rafael felt.

With Rock music depth perspectives are not such an issue. Perhaps the Tannoys are just too pushy and whilst this may well suit most musical genres it does not perfectly capture the live depth perspectives of an orchestra.

Another issue for Rafael that I must admit does not trouble me is the issue that affects all co-axial drive units: the mid and treble fires out through a cone and a megaphone effect can be heard. Rafael said Renee Fleming appeared to be singing from a booth and after transferring to open panel LFT-16s we both understood the issue and agreed about it. For me, the Tannoy's strengths of cohesiveness, point source coherence and smoothness outweigh what I perceive as a minor effect. But such things are a matter of taste and expectation.

I should quickly point out that Tannoy's concentric horn tweeter has undergone a lot of development recently, smoothed by a tulip waveguide. Criticisms based on older iterations of the horn are not valid for the DC8T. As with any concentric driver

though, you must listen slightly off-axis, to avoid symmetric cancellations. Measurement shows the DC8Ts are wonderfully smooth off-axis, one

reason they have a silky quality, but they are less smooth on-axis, and older units were a lot worse in the respect.

CONCLUSION

Tannoys are known as studio monitors, as well as domestic loudspeakers and they have an enviable reputation in both. What I enjoyed so much in these updated DC8Ts did relate more to Rock than classical, I must admit. Yet I find them very enjoyable with Classical too, and effective even with difficult instruments such as violin and piano. Rafael's objection is of compressed perspectives and here I suspect there is a trade off between the projective nature of the horn that suits Rock more than orchestral work. As £4000 loudspeakers go I find the DC8Ts smooth, accurate, great fun and revealing too. This is a wide range of strengths, wider than that of most rivals, so if you want a 'chocolatey' loudspeaker, as Rafael might want to say, then this is the one. It is a high quality Tannoy, it is unerringly accurate and it is a great listen.

MEASURED PERFORMANCE

Our pink noise frequency response shows the bass/midrange unit delivers a smooth, peak free output up to 1kHz as before. The smoothness of output suggests low colouration, something our decay spectrum backs up. Our pink noise analysis shows that the Tannoy goes very low, flat down to 60Hz from forward output, below which the port takes over, peaking acoustically at 36Hz. With port output measuring +4dB over forward output at 80Hz, it is approximately 10dB up at 36Hz which is why there is plenty of subsonic oomph.

The horn takes over above 1kHz and this explains a small dip at 1.5kHz. Above this crossover point the horn's output extends smoothly up to 20kHz. It is the exceptional smoothness of output that shows just how far Tannoy have developed this drive unit; few loudspeakers are as even and accurate.

The DC8 T is very sensitive, producing a massive 91dB Sound Pressure Level from one nominal watt of input (2.84V), but partly because its impedance is low, measuring 5 Ohms with pink noise. The bass unit has a very low DCR of 2.7 Ohms and where low frequency power is drawn (30Hz -200Hz) the DC8 T is a 4 Ohm loudspeaker our impedance analysis shows.

Acoustic damping imposed by the port is broad around 36Hz, keeping the usual peaks / phase shifts low, an aid to amplifier matching (valve amps should be set to 4 Ohms).

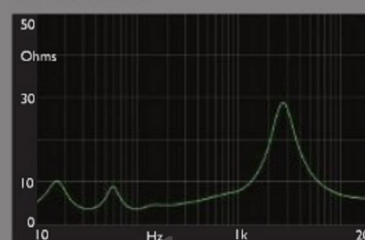
A long term 200ms decay spectrum was very clean, being free from peaks although the cabinet is hot in places.

The horn was very clean, giving a decay spectrum up with the best and approaching that of an electrostatic. The two front drivers generate very little distortion, less than 1% bass distortion from 25Hz to 100Hz and then less than 0.2% up to 6kHz, a very good result. The port is less linear, like most, producing 8% distortion 20Hz-30Hz declining above this frequency to 5% at 40Hz and 1% at 70Hz.

The newly upgraded DC8T is remarkably flat and accurate in its forward response and will sound less shouty and bright than most rivals. It is, however, a very accurate and smooth performer under measurement. NK

FREQUENCY RESPONSE

Green - driver output
Red - port output

IMPEDANCE**VERDICT**

Refined and punchy loudspeaker that is chocolate smooth, yet excitingly projective. Big bass too.

TANNOY DC8T £3950

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FOR

- deep bass
- punchy dynamics
- projective

AGAINST

- limits classical stage depth
- cuppy