TechDAS Air Force IV turntable

Ed Selley

'We will need some space for the air compressor' is a sentence I've managed to go over forty years without being the recipient of, and one I hadn't suspected would crop up in a work context. Nevertheless, such a device is integral to the functionality of the TechDAS Air Force IV, so I obligingly found room for both it and its attendant supply.

Neither is this requirement specific to the Air Force IV. Since its founding in 2010, the company has made the use of air central to what its turntables do, using it in two ways. The bearing is floated on a cushion of air to eliminate any



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source of vibration on the rotating platter. At the same time, a vacuum is created by removing air, which holds the record to the platter, further reducing any chance of resonance or vibration. These features appeared on the original Air Force I, but they can be traced back further. Company founder, the late Hideaki Nishikawa, was employed by Micro Seiki, and the design principles debuted on the SX-8000, which the company built between 1980 and 1990.

New to the family

The Air Force IV is the newest member of the range and sits above the Air Force V model. While the two units appear similar, TechDAS has taken the opportunity to make the IV a closer equivalent to the more expensive models by eliminating some design decisions (I briefly considered using the word 'compromises' here, but the Air Force V is still sufficiently formidable that it isn't really appropriate) made when building the V.

To this end, the platter is a single-section 9kg unit machined from solid A5056 alloy (the Air Force V Premium uses a dual-platter system). Combined with the air-bearing system, this results in optimal resonance control. At the top, you will find a tapered spindle designed to absorb any swaying of an off-centre LP. The platter is topped with a thin pad made of a damping and antistatic material to protect records. At the outer and label edges, you'll find the rubber seals that allow the Air Force IV to suck the record to the platter.

The other major refinement concerns the motor. The upper echelons of the TechDAS range use motor housings that are physically decoupled from the main body of the turntable, but this does result in them being on the large side. The Air Force IV places its two-phase, four-pole AC synchronous motor in its own housing and then attaches it to the main section of the turntable via two large (and extremely sturdy) brackets at the top of the chassis. This means the Air Force IV lifts out of the packaging as a single section and keeps the overall width down to something approaching that of a conventional turntable. Look at the TechDAS head-on, though, and you'll see clear air between the main chassis and the motor. The belt is the same 4mm flat type used on the more expensive models.

Semi-detached

This 'semi-detached' approach has the extra benefit of allowing both turntable and motor to use the same four feet for support. These feet are made from specialised damping materials that are also used in the Air Force III Premium S. They are designed to optimally block external vibrations and further isolate the playing surface from the outside world. The overall footprint of the Air Force IV is entirely in keeping with a 'normal' (such as the word has any meaning at this sort of price) turntable. Only the fairly significant height might need to be taken into account when placing it.

What is even more impressive about this relatively compact design is that the Air Force IV can still mount three tonearms should you require. The armboards are designed to mount to a circular fitting on the main chassis and can be drilled for any arm mount you might need. All three mounting points can be used at once, and they all behave in the same way, even though the front left mount sits on top of the motor bracket and is physically higher than the other two. Perhaps the only minor annoyance is that this is the sort of arrangement that could handle a stereo, mono and 78rpm cartridge, but the turntable itself cannot rotate at 78rpm. Those of you with a more maximalist approach to arms and carts will lap it up, though.

As well as the turntable itself, there is the power supply and compressor unit that needs accommodating. This isn't a huge device; it measures 35 centimetres wide, 16 high and 27 deep. Thanks to having no controls of its own and being supplied with usefully long cabling, it can be placed a considerable distance from the turntable. Crucially, though, you don't have to consider this a necessity. Rest your hand on the chassis while it is running and you can feel a vibration, but the feet used prevent this vibration from being transmitted away from the chassis. It hasn't been audible at the listening position.

Attention to detail

This attention to detail is reflected in every aspect of the Air Force IV. I'm not going to insult anyone's attention by suggesting it's 'cheap', but there is a huge amount of mechanical engineering at work here, and everything has been enacted to a truly exemplary standard. I'd hesitate to call the Air Force IV 'beautiful' because I don't believe that was the outcome TechDAS set out to create, but the complete absence of frippery results in a device that looks spectacular nonetheless.

It's also incredibly normal to live with. Sure, it's the first (and perhaps only) turntable I've ever used with a button marked 'suction', but this is notable almost entirely because it's the only deviation from the standard process of putting a record on (and, by the by, all the buttons on that small control panel have nigh on perfect resistance and travel). »

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» At no stage did this process feel like a science experiment, and it also seems to have the wholly positive real-world effect of dealing with warped records very effectively, without recourse to clamping them in place.

This is not to say the experience is 'normal', though. Absolute Sounds supplied the review sample with a Reed 1H tonearm and Analog Relax EX700 cartridge; a fine pairing and one fairly in keeping with what you might expect to be fitted to a turntable at the price. The way the Air Force IV and its supporting hardware handled A Certain Ratio's *1982* [Mute] encapsulates what the TechDAS is designed to do. The opening track, 'SAMO', kicks off with a bass guitar and a smattering of percussion, and what you hear is subtly but tangibly different from anything I've listened to with my own electronics before.

Hard limit

Essentially, the Air Force is still working within the hard limit of the noise floor of the cartridge and phono stage (and, while Absolute Sounds supplied an HSE Swiss phono stage as well, I mostly stuck with the resident Cyrus for familiarity), but what happens within that audible space is notably different from what I'm used to. The effort put into reducing noise and vibration results in a turntable that goes beyond simple detail retrieval and into a clarity that makes returning to other devices, even ones that are ferociously talented in their own right, sound ever so slightly opaque. From the first plucked bass guitar note, you are simply treated to more of what is on the record.

What is particularly notable about this effect is that there's no single area of the frequency response that benefits, because the improvements are so evenly applied. From the point where the cartridge can resolve a deviation in the groove and convey bass information to the point where either your hearing or the upper response of the cartridge gives out (and, if we're honest with ourselves for a moment, that's going to be the former), there is simply more information available to you. This absolute even-handedness ensures that you aren't drawn to any one part of the presentation and can instead appreciate the whole thing.

Most pronounced

This effect is most pronounced with less-than-brilliant recordings and pressings. David Holmes's *The Free Association* [Dream Drama] is a congested, grungy mess of an album, in which its considerable musical merit is hard to appreciate. The opening *track*, 'Don't Rhyme No Mo', is dominated by its bass line, which on occasions overpowers Sean Reveron's vocals. Securely adhered to the platter of the Air Force, that bass becomes tighter and better defined while retaining a seismic level of depth. All of a sudden, Reveron's machine-gun lyrics aren't fighting for space; they are front and centre in what you hear, and the entire balance of the track shifts. I've owned this particular copy for over twenty years, and no other turntable has successfully liberated as many of its virtues as this one has. »

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» What has also stood out during testing is that the Air Force IV is not some dry, forensic device that reduces your music collection to a technical exercise. For all its astonishing resolving power, it never loses the emotional content of what is being played. Eliza Shaddad's superb *The Woman You Want* [Rosemundy] is crowned by the spellbinding 'In the Morning (Grandmother Song)', one of the most emotionally astonishing tracks I've ever heard. Playing it on the Air Force IV delivers the expected boost in detail and order, but at the core of everything is an artist venting every ounce of grief into four minutes and thirty-seven seconds of cathartic anguish.

Then you can pivot completely to the effortless joy of ZZ Top's *Fandango!* [BMG]. The Air Force IV abandons all notions of grief and becomes a 35kg joy machine, using its enormous talent to bring this peak-era live performance to life. This will never be anything other than a fairly lo-fi recording, but it comes alive as the TechDAS better resolves the relationship between the bandmates (the extent to which Billy Gibbons moves relative to Dusty Hill and Frank Beard is a particular revelation) and their place in the performing space and their relationship to the audience. As before, none of this additional information distracts or deflects from the emotional content.

A different space

This places the TechDAS in a slightly different space for me compared with some of the extremely talented devices I have looked at for this magazine in the last few years. Very few of the turntables offering bespoke engineering solutions to particular bugbears have been anything other than unobtrusive in how they implement their cleverness, but none of them have been able to do so with the scope and consistency of what is being offered here. The Air Force IV will take a record you love and ensure that, if there is information in those grooves, it will give your arm and cartridge the best chance of finding it.

What's more, because it does this before the arm and cart are involved, if your preferences are for arms that better tackle end-of-side distortion, or for cartridges engineered to coax more signal from the generator, they can be fitted to the TechDAS and their effect will be cumulative. Or, should you be unencumbered by such desires, you can fit the arm and cart combination you love and be under no illusions that they will give the best account of themselves they can here. That the Air Force IV sits at the *lower* end of the TechDAS range is faintly mind-blowing, but for a vast swathe of people, this remarkable device will be all the turntable they ever need, and I can see plenty finding room for that air compressor. +

Technical specifications

MAIN UNIT

Chassis: One-piece chassis precision machined from solid aluminium alloy A5052. Silver anodised satin finish

Chassis Weight: 21.5kg

Platter: One-piece platter precision machined from solid aluminium alloy A5056

Platter Weight: 8.7kg

Motor Unit: Precision machined aluminium alloy A5052 Silver anodised satin finish

Motor Weight: 4.1kg

Total moment of inertia: 1.017kg/cm2

Drive system: Belt-drive with double-sided polished polyester fabric flat belt

Driving motor: External 2-phase 4-pole AC synchronous motor

Motor Power Supply: Digital rotational control system driven by power amplifier

Rotational speed: 33.3rpm, 45rpm

Wow & Flutter: below 0.03%

Dimensions (WxHxD): 42 x 16.8 x 36.8cm

Total Weight: 34.4kg

Minimum dimensions for setting up (WxD): 52.1 x 41.8cm

POWER SUPPLY UNIT

Power consumption: 50W

Dimensions (WxHxD): 35 x 16 x 27cm

Weight: 9kg

Minimum dimensions for setting up (WxD): 35 x 33cm

ACCESSORIES

Included accessories: 1x Tonearm Base for rear right or front right positions (drilled for specified tonearm)

Optional items: Extra Tonearm Base (drilled for specified tonearm)

- For the rear left position, an exclusive tonearm base is required.
- Tonearm bases used on the rear right and front right positions are common with those for Air Force III/ Premium and Air Force V/ Premium.

Price: £19,998

Manufacturer TechDAS

techdas.jp

UK distributor Absolute Sounds

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