

hi-fi news

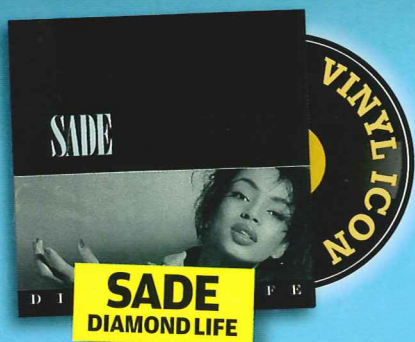
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& Record Review

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**'First look at the
Air Force Two'**
HFN visits TechDAS, p16

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Feel the Force...

Ken Kessler visits TechDAS for a first look at its Air Force Two turntable

RIGHT: The team at TechDAS (l-r) – Harutoshi Kunugi (Technical Adviser of Stella Inc), Toyoda Keiji (Technical Manager of Stella Inc), Hideaki Nishikawa (CEO of Stella Inc), Motofumi Hirata (Export Manager of Stella Inc)



BELOW: View of the simplified Air Force Two air suspension module. The lower parts count and simplicity are apparent when compared to the photo of the Air Force One suspension assembly (p17, lower right)

When a company is both a major distributor and a manufacturer, its reputation means one thing at home and another abroad. On visiting the Tokyo High End Show last November [see *HFN* Feb '14], I learned that Stella Inc, parent company of TechDAS, is regarded first and foremost as a major distributor, representing such brands as Wilson-Benesch, Constellation,

Vivid Audio, Brinkmann, Graham, Devialet and many others in what must be one of the most discerning markets in the world.

OVERNIGHT SENSATION

That, of course, does not affect us outside of Japan. Instead, we know the company because TechDAS is responsible for one of the most talked-about products of the past ten years: the remarkable Air Force One turntable. It crept in on us surreptitiously, in a static display at the Munich High End Show in 2012, before reaching us for review last year [see *HFN* Jun '13]. Simply put, it has rewritten the rules for high-end turntables, thanks to a combination of its engineering and its construction.

Knowledge of its origins, however, explains that this overnight sensation was 30 or

more years in the making. Its design team, including Technical Adviser Harutoshi Kunugi, Technical Manager Toyoda Keiji and company CEO Hideaki Nishikawa share a common background: Micro-Seiki. Though a brand best remembered by 50-somethings, Micro-Seiki represented in the 1980s the pinnacle of Japanese turntable design, especially

with models such as DQX-1000, able to carry three arms, and the remarkable SX-8000 II, which is most certainly the

granddaddy of the Air Force One, with its outboard motor housing and massive construction.

As noted in our review of the Air Force One, Nishikawa-san joined Stax in 1966, his first taste of the audio business. He stayed there for ten years, developing electrostatic headphones, including the SR-3. His career took a detour into tonearm

'The Air Force One has rewritten the rules for high-end turntables'





LEFT: First glimpse of the Air Force Two (and brochure). This unit is burning-in, and fitted with a Graham Phantom tonearm



design, one of which was the Infinity Black Widow – possibly the first to use carbon fibre, and a remarkable device for carrying high-compliance cartridges, regardless of what some audio critics said about it.

AIR BEARINGS

When Nishikawa-san joined Micro Seiki, he was appointed the Technical Department Manager, then the Sound Business Director. His involvement included the development of electrostatic headphones, designing tonearms and – fortuitously – then working on turntables with air bearings and a vacuum hold-down system.

He stayed for Micro Seiki for 12 years, remarking to *HFN*, 'The representative product from that period is the SX-8000II turntable with air bearing and vacuum system. In fact, the Air Force One

is a compilation of technologies from SX-8000II.' His colleagues from that period are now part of the TechDAS/Stella operation.

TechDAS is an 'own brand' of Stella Inc as opposed to an imported line. All planning and development for TechDAS are managed by Stella Inc. Stella's long experience in high-end audio [see box-out, p19] as a distributor inspired the company's aim to produce superior high-end audio products with worldwide appeal. Buoyed by the rapturous response to its Air Force One, the company wasted no time in creating the Air Force Two. Remarkably, its price is roughly one-third the cost of the Air Force One.

It was always the intention of the designers to create a less costly derivative of their reference model, while preserving all the essential features. Even the performance

is within a whisker of the 'One, though fastidious listeners might hear slightly more profound bass and deeper silences from the dearer player. The key factor in achieving the necessary cost reduction was a fundamental change in the manufacturing process.

The Air Force One's main upper chassis is formed by metal cutting and machining the chassis 'body', while in the Air Force Two, the main section has been produced in aluminium with precision metal casting techniques. This alone represents a significant change in the cost of manufacture.

SOLID ALUMINIUM

To maintain the crucial technologies of air suspension, air bearing and vacuum hold-down, TechDAS developed more cost-effective designs, an oil-damped air suspension, different air pumps and 'feet', although the Air Force Two rests on four pillars while the 'One uses three. The 10kg platter – 9kg lighter than the Air Force One's – is machined from solid aluminium.

In all other respects, the Air Force Two is very much the One's sibling, ➔

BELOW: (Right) photo shows the Air Force One without platter; compare this to the casting of the chassis for the Air Force Two, showing apertures for four pillars (left)



RIGHT: The Air Force One pillar disassembled





though unusually, the dimensions are slightly larger. The Air Force One has a footprint of 600x450mm while The Air Force Two needs a space of 685x452mm.

Like the 'One, the Air Force Two can accommodate two tonearms, a 9in or 10in tonearm on the right hand side position, and a second 9in, 10in or 12in tonearm can be mounted with an optional extra tonearm base on the rear left hand side. The motor is outboard as are the power supply and air condenser units, and it features the Air Force One's sophisticated electronics and LCD display for ultra-precise speed control with read-outs to two decimal places.

SOPHISTICATED DAC

Although the turntables are the latest – and clearly the most famous – of the company's products, followed by the recently-introduced TDC01 moving-coil cartridge, TechDAS has also been manufacturing a sophisticated DAC for a few years, as well as cables and accessories such as the Disc Stabilizer and the Insulation Base feet for positioning under spikes.

Called the D-7 Supreme, or D-7i Supreme with iPod digital input, the DAC has been improved recently with the redesign of the power supply and casing, which TechDAS believes to play important roles in the overall performance. Amusingly, this is a by-product of their work with metals in the development of the Air Force One, which might be the first time that a DAC was influenced by a turntable.

Using a hybrid chassis clad with a structure of aluminium and brass ➡

ABOVE: A look inside one of the 'TechDAS Air Force Module' air pump assemblies. The box measures 428x240x160mm (wdh) and weighs 10kg

TOP RIGHT: The late Yasuo Nakanishi, who founded RF Enterprises. He and Nishikawa-san transformed Stellavox Japan from being solely a distributor, to Stella Inc, a manufacturer. To the right is shown the Air Force One turntable

ROOTS OF STELLA, TECHDAS AND JAPANESE HIGH-END

Yasuo Nakanishi was the Godfather of high-end audio in Japan. For over 30 years, he discovered and nurtured fledgling brands, taking them to a point where they could enjoy a global reputation. Through his company R F Enterprises, Yasuo distributed some of audio's greatest names.

In the 1970s, his company handled brands such as Audio Research, SAE, Beveridge, and Electro Research. In the 1980s, R F Enterprises was the Japanese distributor for Krell, Apogee, Studer/Revox, Jadis, and Cello. Added to the roster in the 1990s were Acoustic Energy, Audio Alchemy and VAC. A second company, Stellavox Japan, Inc, was established in 1989 to distribute Goldmund, Martin-Logan and Magnepan among others.

It was not easy at first, as Yasuo explained in an interview in 1996, 'There were economical elements. Even SAE had to be sold at much, much higher prices than Japanese products. But like today, Japanese enthusiasts, relative to the amount of money they make, are much more interested in these things than people in other countries.'

The trigger to R F Enterprises' success and therefore the birth of the high-end in Japan was Yasuo's discovery of Mark Levinson Audio Systems in 1974.



'Mark Levinson was instrumental in establishing the concept of the high-end throughout the Seventies. He and I kept talking about new products, designs and things. He did come to Japan quite often in those days. By the late 1970s, we

had a number of different models, including power amps and crossovers that really established this genre we call

"The work of an importer is not unlike that of an art dealer"

high-end. No-one talked about it at the time.

'When I acted as an importer/distributor in Japan for manufacturers overseas, I wanted not merely to import their products to sell but also to try to translate the manufacturers' philosophy. I sometimes feel that the work of an importer/distributor is not unlike that of an art dealer.'

Nakanishi-San passed away on the 4th of June, 2001.





to control resonance, the main unit is constructed from solid aluminium and sits on three large spiked brass feet. Two frontal spikes are directly connected to the toroidal transformer to quickly remove all minute vibrations.

WOLFSON CHIP

TechDAS supplies it with the newly developed TechDAS Insulation Base, made of super duralumin and DLC. As for the processing, the D-7 Supreme uses a Wolfson WM8741 D/A chip, supporting USB to 192kHz/24-bit. As for operating systems, it copes with most flavours of Windows up to 7, and Mac to OSX 10.6 or later.

In D-7i form, the unit allows direct digital input from an iPod by connecting the USB cable from the Apple device into the front-mounted USB socket. This function allows the user to employ an iPod as a high-end audio player.

Variable pre-output is included as standard equipment, enabling the D-7 to serve as a DAC/preamp, complete with a high-quality headphone amplifier based on a dedicated board and fitted with ¼in socket. The front panel also features a rotary to select sampling rates.

Its complement of rear panel sockets includes one each of RCA coax, Toslink and USB digital input and an RCA digital output; all are 192kHz/24-bit compatible.

Fixed level analogue outputs include both RCA single-ended and XLR balanced, with the variable output RCA-only. There's also an external BNC clock input to be found.

AIR FORCE THREE?

Spending a day at the TechDAS HQ, I was able to observe the first Air Force Twos being constructed. The workmanship reminded me of, yes, watch manufacturing, with

'I was able to observe the first Twos being constructed'



TOP LEFT: The TechDAS D-7i/192DSD Precision Digital Interface

ABOVE: Pictured explaining the workings of the Air Force Two turntable is Nishikawa-san

uncompromised attention to detail, quality and fit/finish.

If the response to the 'Two is as overwhelming as for the 'One, and the new cartridge finds an audience, there will be other cartridges and turntables in the offing. While Nishikawa-san wouldn't exactly commit, I have a sneaky feeling that an Air Force Three down the road might be even less expensive.

What might provide further down-pricing remains to be seen – the Air Force Two seems as lean as the topology can go. One suspects an unwillingness to sacrifice any of the air suspension or air bearing element, but a smaller model with just one arm fixing and hold-down?

Why is this plausible? Because Micro-Seiki made record decks at every price point. As Nishikawa-san and his team respect and revere their Micro-Seiki heritage, who knows? Maybe Nishikawa-san might even consider creating an all-new, 21st Century Black Widow tonearm? ☺

LEFT: Rear view of the Air Force Two, showing ingress for the air hoses, and a full view of the 12in SME Series V arm

RIGHT: The brand-new TDC-01 moving coil cartridge, with a claimed 0.45mV output

